The OIL WEEKLY

A Journal for
Oil and Gas Producers and Field Men

HOUSTON
LOS ANGELES
PITTSBURGH
FT. WORTH
TULSA
CHICAGO

Vol. 34. No. 12 SEPTEMBER 12, 1924 10 Cents Per Copy

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Step Lively Boys!

Put on Your Thinking Cap
Test Your Memory

1

These are the awards to be made for identifying the greatest number of photographs shown in our recent announcement.

Send in your list naming as many as possible not later than September 30th. You may be a winner. Do not be discouraged if you can only recognize a few of them.

If you do not have a copy of our advertisement showing the pictures of these field men—send for one at once. They are pictures taken from our files and represent users and boosters of Hughes Rock Bits and Tool Joints in various rotary oil fields of the world.

2

1st Award—Howard, 21-Jewel Gold Watch, thin model as pictured above.
2nd Award—Remington Automatic Shot Gun, 12-gauge, latest model, with leather case.
3rd Award—All-leather suit case, large size as pictured at left.
4th, 5th and 6th Awards—Solid Gold Hughes Simplex Rock Bit Watch Fobs.
7th Award—Beautiful White Gold Watch Chain.
8th Award—Handy Gold Pocket Pencil.

3

Remember—Send in your answers by September 30th.

4 5 6 7 8

HUGHES TOOL CO.

Houston, Texas · Los Angeles, Calif.

Manufactures

Hughes Rotary Rock Bits and Hughes Acme Tool Joints

Electrical Rotary Drilling Finally Perfected

Oil Well Supply Co. announces a new *electrical* application for Rotary Drilling; namely, the

"OILWELL" HILD DIFFERENTIAL DRIVE

(PATENTS PENDING)

After several years of theoretical and practical research and test, this, the next logical and most modern step in the development of drilling equipment, has been demonstrated to be a marked success, and far superior to all other drilling methods.

The "Recording Charts" (which register and record a continuous log of drilling operations) are to the drilling industry what the Speedometer is to the automobile.

Write to us at Pittsburgh for full information.

"OILWELL" ESTD. 1862 TRADE MARK. (REGISTERED)

OIL WELL SUPPLY CO.
PITTSBURGH, PA.

Exclusive Manufacturers

OILWELL SUPPLY CO
World's Largest Manufacturers of Oil Field Equipment

THE OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 1716 Dallas Ave., Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

Central location means Service in time of need
TULSA
1. Appalachian Field.
2. Lima, Indiana, Field.
3. Illinois Field.
4. Kansas Field.
5. Northern Oklahoma Field.
6. Southern Oklahoma Field.
7. Burkburnett-Electra Field.
8. Ranger Field.
9. Mexia Powell Field.
10. Southern Arkansas Field.
11. Northern Louisiana Field
12. Gulf Coast Field.
13. New Colorado Field (Craig)
14. Wyoming Field (Salt Creek)
15-16. Montana Field.
17. California Field—San Joaquin Valley.
18. California Field—Los Angeles Basin.
12-inch Discharge Pumps biggest ever built in midcontinent.

O.K. STANDARDIZED
RIG IRONS & EQUIPMENT

Yes! we have them—and hundreds of other quality lines for the oil field on which we are ready to give you real

—Service—

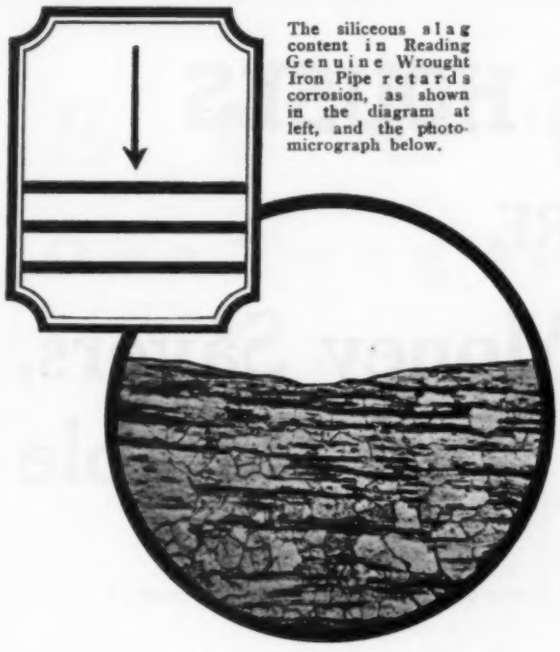
just tell us your needs

INTERNATIONAL SUPPLY CO.

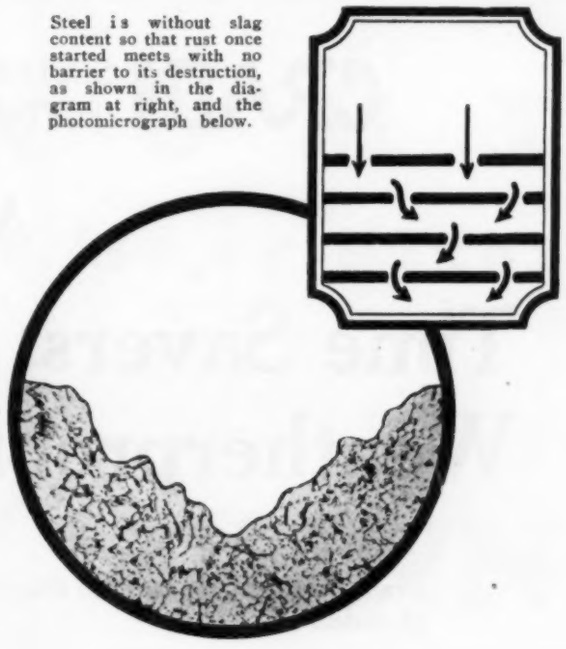
Branch stores in 23 of the leading oil field towns in Oklahoma, Kansas, Wyoming, Colorado and Texas.

General Offices and Works
Tulsa, Okla.
District Offices: Denver, Colo., Fort Worth, Texas and El Dorado, Kans.

Say you saw it in The Oil Weekly



The siliceous slag content in Reading Genuine Wrought Iron Pipe retards corrosion, as shown in the diagram at left, and the photomicrograph below.



Steel is without slag content so that rust once started meets with no barrier to its destruction, as shown in the diagram at right, and the photomicrograph below.

It Is Sure, Unless–

SOMEWHAT like the steady boring of a mechanically-driven drill, rust finds its way into the walls of cheap tubing. Corrosion may enter any joint along the entire length of the tubing but frequently where segregation of rust-aiding impurities is found.

Reading Tubing, to which segregation of rust-aiding impurities is unknown, guards the purchaser against the destructive forces of corrosion; its slag content, uniformly distributed throughout it, is a resistive barrier to the progress of rust. No longer is theory associated with it; actual tests have established its superiority over cheaper material—Reading's life has been found to be three times longer.

Quickness of operation and economy of production demand the purchase of "Reading Tubing".

READING IRON COMPANY
READING, PA.

World's Largest Producers of Genuine Wrought Iron Pipe

Oil Well Supply Company, Distributors
Inquire at any of their 100 branches

SEE OUR EXHIBIT AT THE

INTERNATIONAL PETROLEUM EXPOSITION AND CONGRESS
TULSA, OKLA.
OCT. 2 - 11

READING PIPE

GENUINE WROUGHT IRON

CRAIN SECTIONAL (PORTABLE) HOUSES

ARE

Time Savers, Money Savers, Weatherproof and Durable

Crain Sectional Houses are shipped from stock immediately on receipt of order.

Crain Sectional Construction saves time and labor costs in erection, and affords complete salvage because Crain Sectional Houses can easily be knocked-down, moved, and re-assembled on another location.

Crain Sturdy Construction of durable materials, guarantees ample protection to machinery, materials or men.

Write for Catalog of Plans and Prices

Crain Sectional Houses For Industrial Purposes

Crain Ready-Cut Houses For Permanent Homes

Crain Ready-Cut House Co.

HOUSTON, TEXAS

Say you saw it in The Oil Weekly

ECONOMY

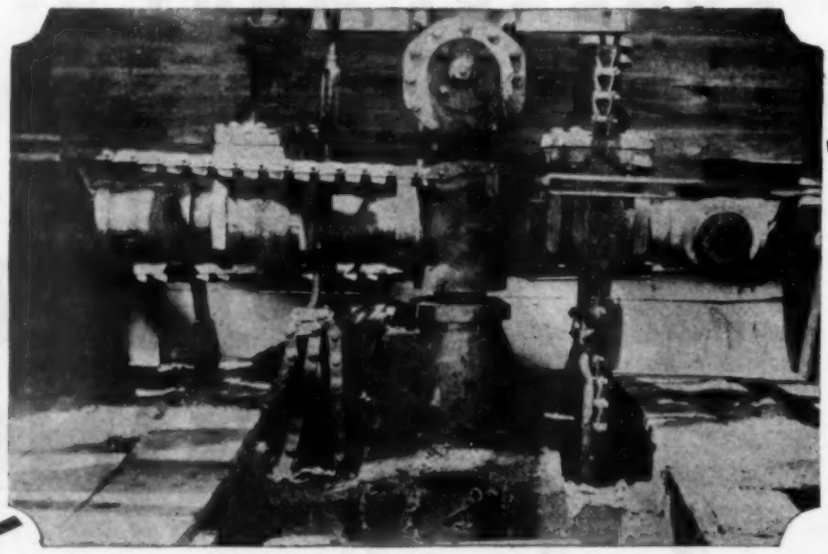
One Tong for Many Sizes

DUNN TONGS

Carried in Stock by

National Supply Companies

JARECKI MALLEABLE FITTINGS Are So *Unvaryingly Satisfactory* Because Their Iron Is



MELTED IN AIR FURNACES

JARECKI CAST-IRON FITTINGS ALSO BEST

Oil men have asked us what it is in Jarecki Malleable Fittings that makes them so uniformly durable. Is there really a difference or are all malleable castings the same?

Yes, there is a difference—a difference that usually starts with the method of melting the iron.

Most fittings are made from iron melted in CUPOLA FURNACES. Cupola-melted malleable absorbs impurities from the coke, causing the irregularities and defects that you have probably noticed in ordinary fittings.

Jarecki Malleable Fittings, on the other hand, are made from iron melted in AIR FURNACES. Such iron absorbs no impurities. Combine this fact with rigid Jarecki inspection service and you have the reason for the unusual and unvarying toughness of Jarecki Malleable Fittings.

Jarecki CAST-IRON Fittings are close-grained, uniform and free from defects of any kind.

Jarecki Fittings have perfect, clean-cut threads, accurate as to size. All screwed fittings are recessed to permit easy entrance of pipe.

In other words, while you MAY get a long-lived, perfect product by specifying ordinary fittings, you are sure of a perfect product EVERY TIME when you specify JARECKI FITTINGS.

The Jarecki store in your vicinity is a good place to get acquainted with—and there is no better time to get acquainted than when you are next in the market for Fittings.

"WE SELL EVERYTHING USED OR NEEDED ABOUT AN OIL OR GAS LEASE"

Jarecki

Manufacturing Company

ERIE, PA., U. S. A.

ST. LOUIS PITTSBURGH EL DORADO TULSA EASTLAND

The Comparative Overall Cost of a Gas Pumping Plant Makes It Imperative to Use HOPE *Vertical* Engine Units

Even with prices *AT THE FACTORY* the same for both a Hope Vertical and a horizontal type of engine unit, there are savings going with the Hope Vertical which you simply cannot afford to lose.

The Hope Vertical costs less to ship, to haul and to install—because it is a self-contained unit shipped almost completely assembled.

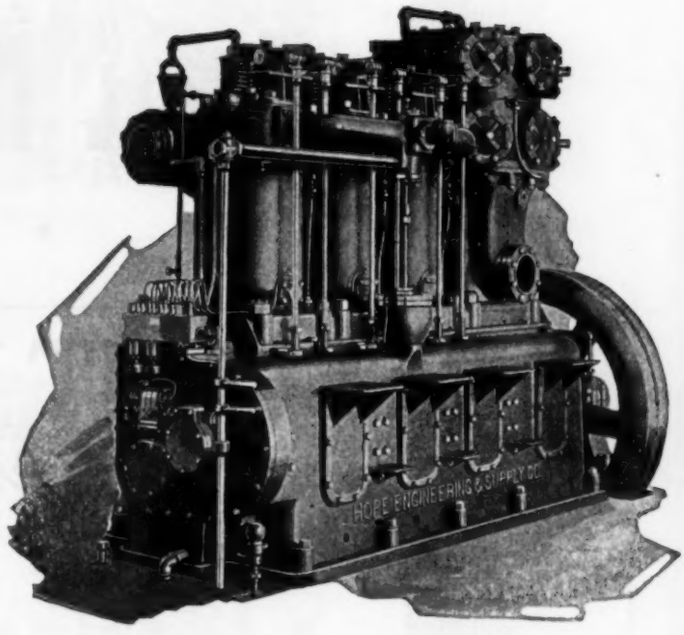
You'll need a building only about two-thirds as large, and a foundation about 40% smaller, for a Hope Vertical than for a horizontal. And the installation of piping and accessories will be simplified, and the cost reduced.

You'll have a compact, up-to-the-minute, easily-looked-after plant, at a very much lower cost for the complete installation.

Even if a plant of Hope Verticals showed an operating cost as high as the ordinary plant of horizontal units, this big initial saving is a thing you can't ignore.

As a matter of fact, there are worth-while savings in operating cost, too, in a Hope Vertical plant. You'll invest less, and earn more, in a plant of Hope Verticals.

We have interesting cost-comparisons that we will be glad to lay before you, on request.



SEE OUR EXHIBIT AT THE

INTERNATIONAL PETROLEUM EXPOSITION AND CONGRESS TULSA, OKLA. OCT. 2-11

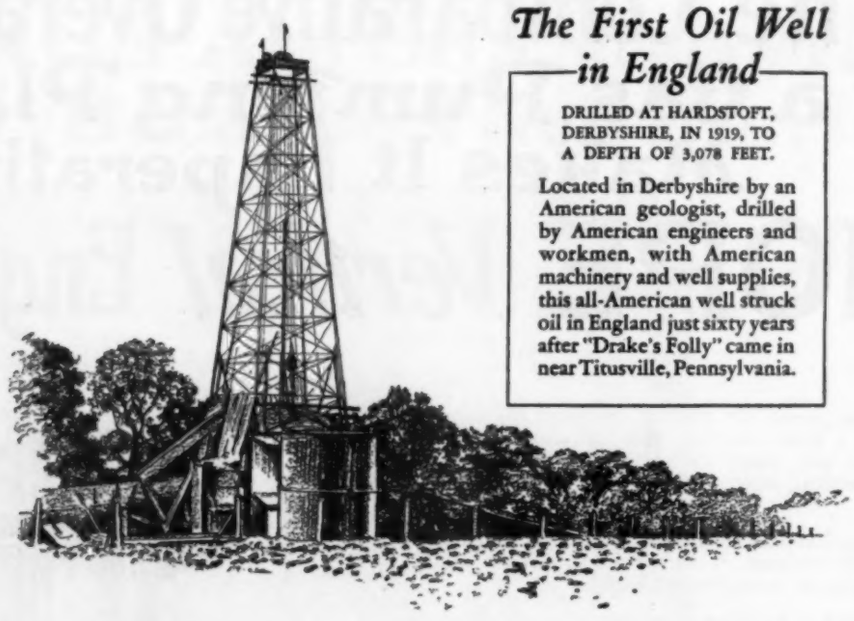
To engineers—and others—who may be interested in the details of design and construction of Hope Vertical Gas Engines and Hope Vertical Gas Engine-Compressors, we will be glad to send specifications which not only describe in full but also contain illustrations of the more important features of Hope construction. And we will be glad to quote upon any requirements, whether for Hope Verticals only or for a complete plant installed.

ENGINEERS CONTRACTORS

HOPE
Engineering & Supply
COMPANY

DESIGNERS MANUFACTURERS

MT. VERNON, OHIO, U. S. A.



The First Oil Well in England

DRILLED AT HARDSTOFT, DERBYSHIRE, IN 1919, TO A DEPTH OF 3,078 FEET.

Located in Derbyshire by an American geologist, drilled by American engineers and workmen, with American machinery and well supplies, this all-American well struck oil in England just sixty years after "Drake's Folly" came in near Titusville, Pennsylvania.

CRESCENT WIRE ROPE
100% UNIFORM

We all know that the oil industry in its onward march has made history. But one should not lose sight of the fact that certain outstanding products used in the oil fields have contributed in a large measure to the glory of the industry...Crescent Wire Rope is one conspicuous example, standing head and shoulders above the crowd, adding its strength and stamina where they are needed most. Its prominence is due to its ability to stand the gaff—the wear and tear of the most difficult jobs. Its capacity for resisting abrasion and shock is most extraordinary. Consider these factors when ordering your next supply of wire rope; consider also that you can't afford to take chances with the ordinary kind. Specify "Crescent"—the utmost in wire rope.

Sold at all Jarecki Stores

AMERICAN CABLE COMPANY
INCORPORATED
NEW YORK, N. Y.

Stocked and Sold by Leading Supply Houses Everywhere

Magnolia Petroleum Company

Producer *Refiner* *Jobber* *Distributer*

High Grade Petroleum Products

FUEL OIL

LOADING STATIONS AT

BEAUMONT CORSICANA SABINE GALVESTON FT. WORTH
HARBOR ISLAND LULING CORPUS CHRISTI DALLAS
HERMA, ARK. MIRANDO

MANUFACTURER OF

Magnolene
REG. U.S. PAT. OFFICE

THE

DEPENDABLE LUBRICANT

"A Grade for Each Condition"

For satisfactory operation of Ford Cars use Magnolene Ford Oil

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Inquiries Respectfully Solicited

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Savannah, Ga.
Gretna, La.
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Providence, R. I.
Jacksonville, Fla.
Galveston, Texas

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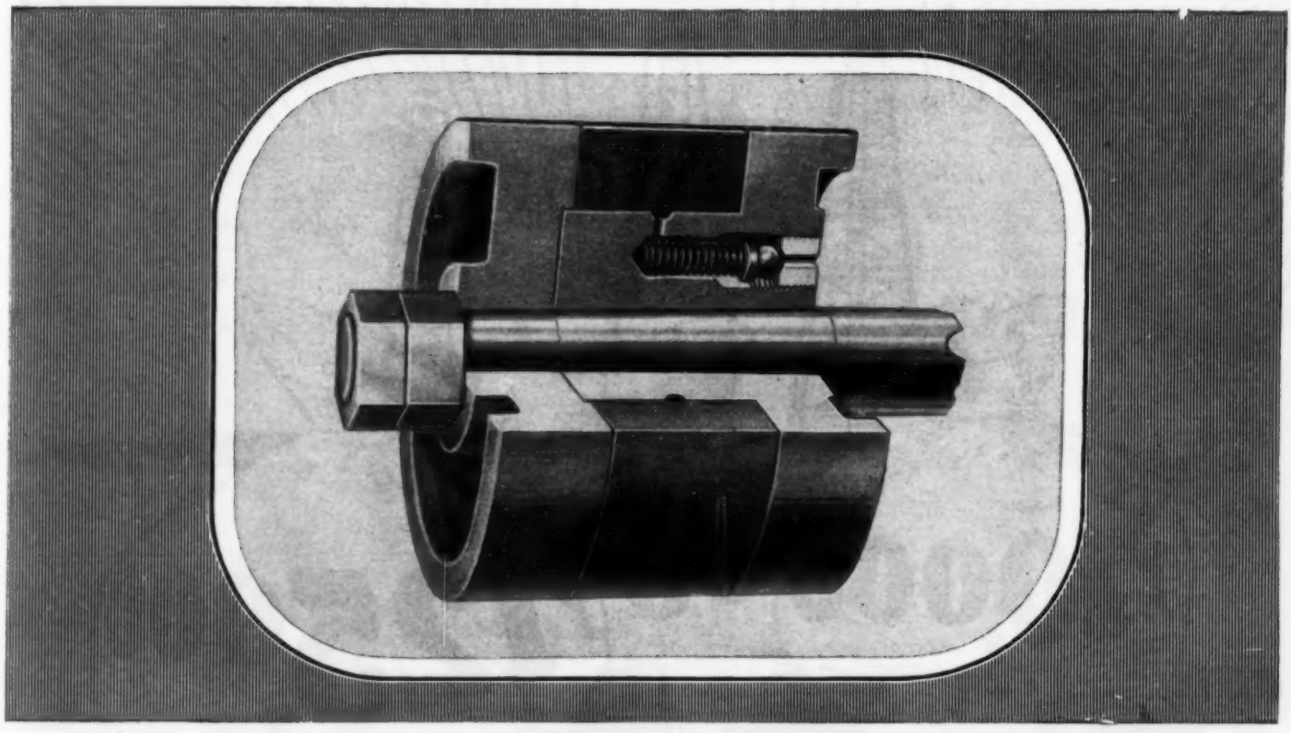


2 TO 6 TIMES FORMER SERVICE

Proved by Performance

The GUIBERSON Automatic Rotary Slush Pump Piston has been giving, from 1 set of rubbers, 2 to 6 times the service of former equipment—wherever used.

In one field where rubbers had always to be changed every 200 to 700 feet, GUIBERSON rubbers are averaging 3,000 feet. This remarkable average is explained by the fact that the GUIBERSON rubber is kept tightly expanded against the liner, so that liner is perfectly swabbed and sand does not work in between rubbers and liner.

In another instance a company which had averaged approximately 1400 feet with old equipment, has secured 3100 feet since adopting the GUIBERSON Piston.

The GUIBERSON is proving to be the HUNDRED PERCENT PRACTICAL automatic piston. The fluid pressure is the logical agency for expanding the rubber as it wears, and the check valve, holding the pressure as it is built up, prevents coursing of sand-laden fluid through the channels of the piston, and consequent wear.

Fully patented. Order through your supply house.

THE GUIBERSON CORPORATION

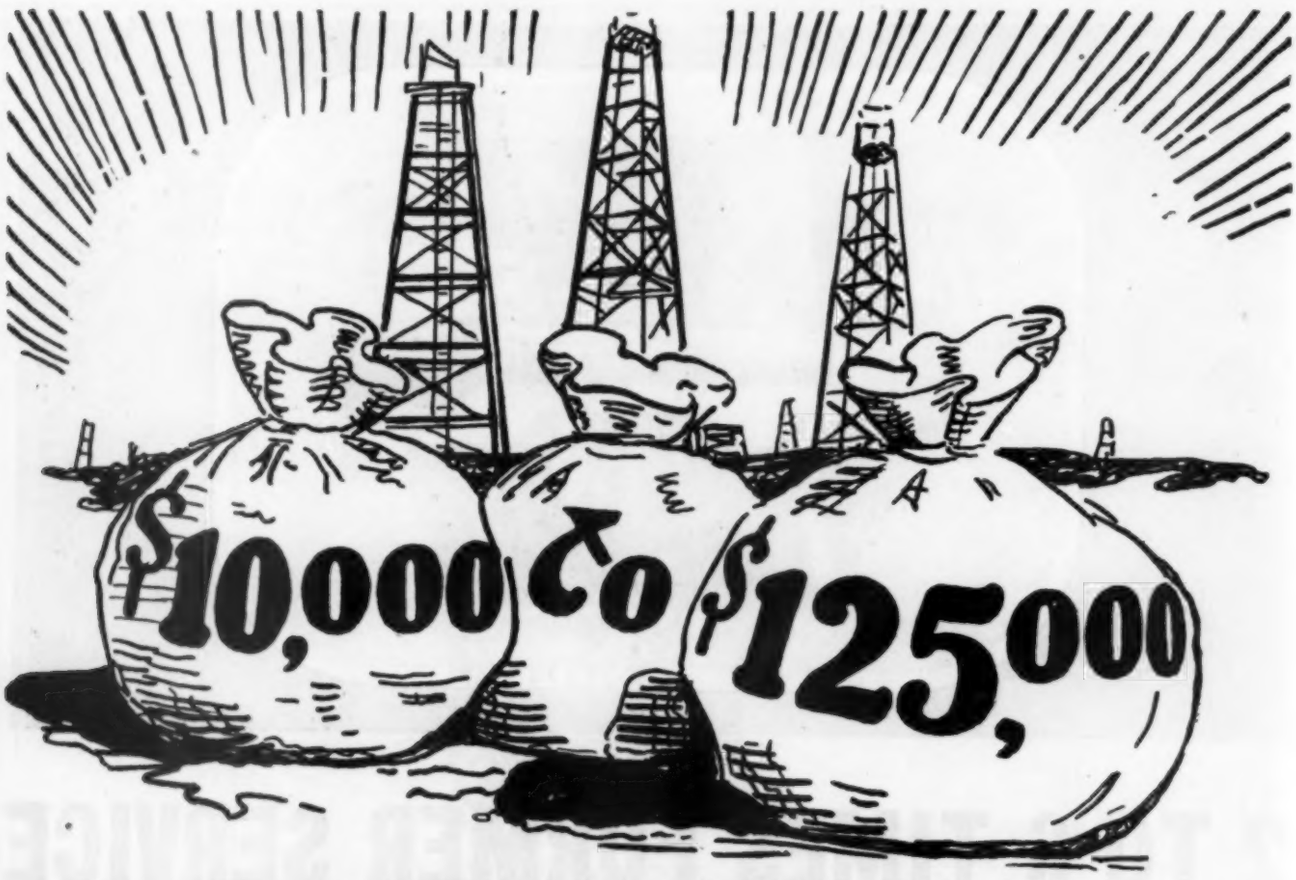
Box 1106, Dallas, Texas

CALIFORNIA BRANCH: 1737 E. 7th St., Los Angeles

402 W. First St., TULSA | 318 First National Bank Bldg., HOUSTON | 506 Trust Bldg., NEWARK, O.

GUIBERSON

BETTER BE SAFE THAN SORRY — GUIBERSON



Can You Afford to Risk It Without Even Insurance?

It costs from $10,000 to $125,000 to drill an oil well.

Any well—YOUR well—may be ruined or seriously damaged by water, gas blowouts, collapse of casing and other hazards too well known to require comment.

It may show needlessly excessive costs because of corrosion, pulling and replacement of casing. Production may be only a fraction of what it should be—B. S. and cut oil may be many times MORE than they should be—and the well may be closed down years before its time, all because it was not PROPERLY COMPLETED when drilled.

No well is properly completed that is not protected against hazards that may at any time destroy its efficiency.

And there is no way to obtain adequate protection except through scientific OIL WELL CEMENTING.

What fire insurance is to the money invested in your buildings, scientific oil well cementing is to the 10 to 125 thousand dollars invested in each of your drillings.

Economize on other things, perhaps, but for the sake of good business don't overlook cementing your wells. Neglect in this respect is too dangerous, too costly, as a great many operators with experience will testify.

The Halliburton Oil Well Cementing Co. is the outstanding leader in the cementing field for a number of sound and very excellent reasons: It controls the Perkins process (by far the most successful ever devised) in the Mid-Continent. It is the originator and only user of the HALLIBURTON MIXER, which mixes 100 sacks of cement every 6 minutes. It is the only user of the Halliburton Measuring Tape—the only sure means of knowing at all times the exact location of the cement in the hole; and in all its work it has the experience gained in cementing more than 4000 wells to draw upon.

A line dropped to Halliburton today may mean a saving of thousands a few months from now. Your inquiry will receive prompt, courteous and full attention.

Equipment Available for All Fields

HALLIBURTON OIL WELL CEMENTING CO.

Recognized Leaders in Scientific Oil Well Cementing — Duncan, Okla.

to safeguard your investment—OIL WELL CEMENTING

Say you saw it in The Oil Weekly

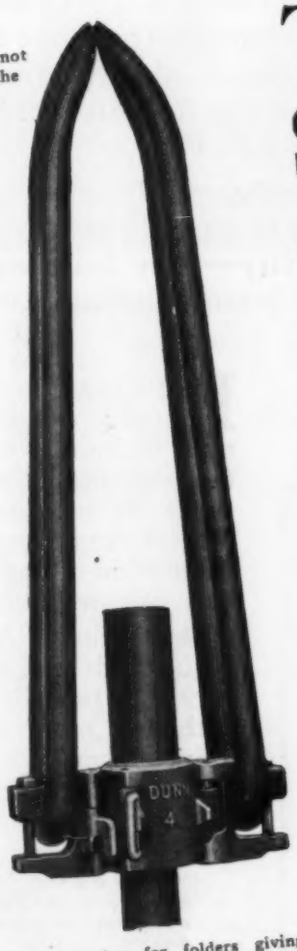
FOR CLASSY SERVICE
TONGS
TUBING CATCHERS
ELEVATORS
FOR ALL PURPOSES
It must be DUNN

DUNN TOOLAGRAM

ORIGINAL
PRACTICAL
ECONOMICAL

Embracing maximum speed with perfect safety

The DUNN Safety Elevator



It cannot drop the string

The Dunn Safety Elevator embraces the combined features of speed in operation with absolute safety to life and property.

It is the culmination of years of intensive effort to design and build an elevator in the operation of which these two factors would co-ordinate and function to the maximum degree possible with positive results.

In rotary drilling this elevator operates faster than the third speed. Each operation of opening and closing the elevator door and at the same time unlocking and locking the latch, is combined into one simple, easy movement at the highest possible speed. The safety factor is entirely automatic, and is not dependent upon the latch. When holding the weight of a string of pipe, the door cannot be opened, and therefore, the elevator cannot drop the pipe.

All members of the body, door and latch are inter-locking and so designed as to compel perfect co-ordination toward fast and positive operation.

For Safety, Speed, and Service, it must be DUNN.

Write today for folders giving complete, detailed description of design, construction, and operation of Dunn Safety Elevators.

DUNN MFG. CO.

Office and Works: Oxnard, California

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INTERNATIONAL PETROLEUM EXPOSITION AND CONGRESS
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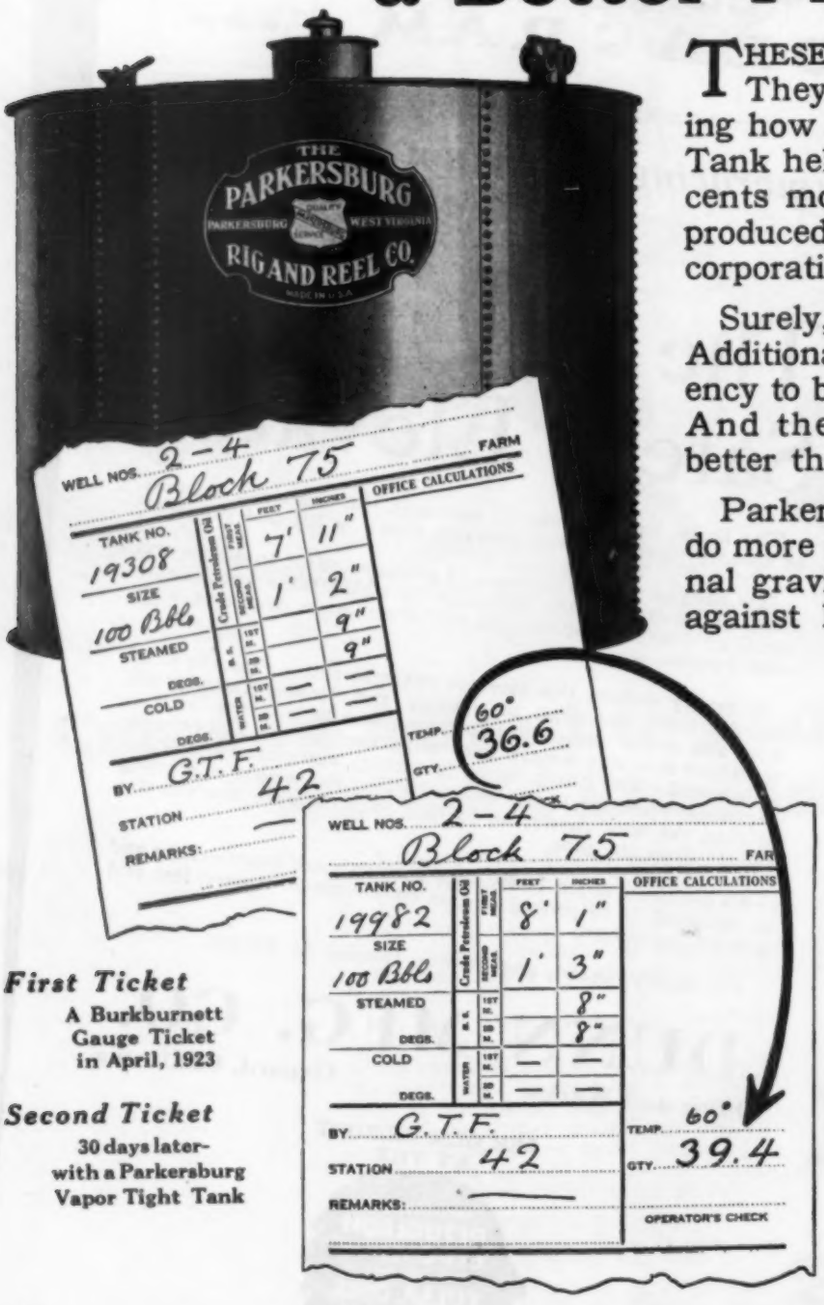
OIL WELL PATENTED DUNN TOOLS
TRADE MARK REG.

A Better Tank *and* a Better Price for Oil



First Ticket

A Burkburnett Gauge Ticket in April, 1923

Second Ticket

30 days later- with a Parkersburg Vapor Tight Tank

THESE gauge tickets tell the story. They are a definite record showing how a Parkersburg Vapor Tight Tank held up gravity and brought 40 cents more per barrel for the crude produced by this nationally known corporation. (name on request)

Surely, here is a worthwhile saving. Additional profits because of the tendency to buy crude on a *gravity* basis. And the higher the gravity—the better the *price*.

Parkersburg Vapor Tight Tanks do more than hold crude to its original gravity—they hold every barrel against losses through evaporation.

PARKERSBURG Service includes complete installations of Tanks and Equipment for retaining gas with crude at pressures consistent with customers' requirements, or for separation of gas for manufacture of gasoline or use as fuel.

Parkersburg Vapor Tight Equipment can be applied to any steel tank of any capacity although best results are obtained when this equipment is used with Parkersburg Bolted Steel Tanks.

Ask our representatives how Parkersburg Vapor Tight Equipment does this. Or write for information.

The PARKERSBURG RIG & REEL COMPANY

Main Office and Works, Parkersburg, W. Va. ***New York Office,*** 30 Church St.

California Representatives, BUCK & STODDARD
485 California St., San Francisco, Calif.; Box 720, Arcade Station, Los Angeles, Calif.

District Offices and Distributing Warehouses from which Parkersburg Service is available

TEXAS
*Houston
Breckenridge
Corsicana
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Luling
Mexia
Orange
Ranger
Westbrook

WYOMING
*Casper
‡Rawlins

LOUISIANA
*Shreveport
Haynesville

KANSAS
*Eldorado
Madison

WEST VIRGINIA
Parkersburg
Clarksburg

OKLAHOMA
*Tulsa
Bristow
Drumright
Holdenville
Hominy
Okmulgee
Wetumka
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Wilson
Shidler
Stroud
Wewoka

ARKANSAS
*El Dorado
Louann
Smackover
McNeil

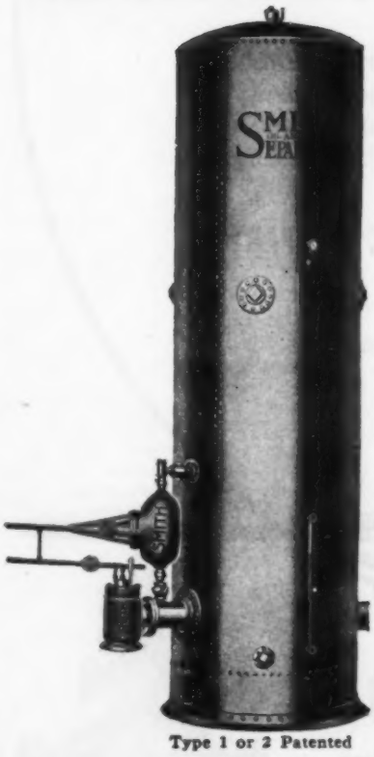
MONTANA
Sunburst
†Winnett

*District Offices ‡Frick-Reid Supply Co. †Continental Supply Co.

SMITH OIL AND GAS SEPARATOR

The battery of three Smith Oil and Gas Separators (Type 1) shown is on the Pure Oil Company lease, Rapliogle farm, in section 9-10-8, Cromwell.

Separation of the gas from the oil goes on continuously, each being delivered to the proper carrier, a strictly salable product.



Type 1 or 2 Patented

Type 1—Capacity 5,000 bbls. oil, 10 million cu. ft. gas.

Type 2—Capacity 2,000 bbls. oil, 5 million cu. ft. gas.

Type 3—Capacity 500 bbls. oil, 1 million cu. ft. gas.

Type 3 Patented

SMITH SEPARATOR COMPANY

Chestnut & Smith Corp. Bldg. **TULSA, OKLA.** Phone Osage 6220

California Office, 821 Haas Bldg., Los Angeles, Calif.

Export Representative, Oil Field Equipment Co.,
30 Church St., New York
Cable Address: "Oilfield", New York.

London Office: Perkins MacIntosh Petroleum Tool & Boring Co., Ltd., 25 Bishopsgate.

KEROTEST

REGISTERED U. S. PAT. OFF.

The Perfect Balance that Goes with Perfect Construction

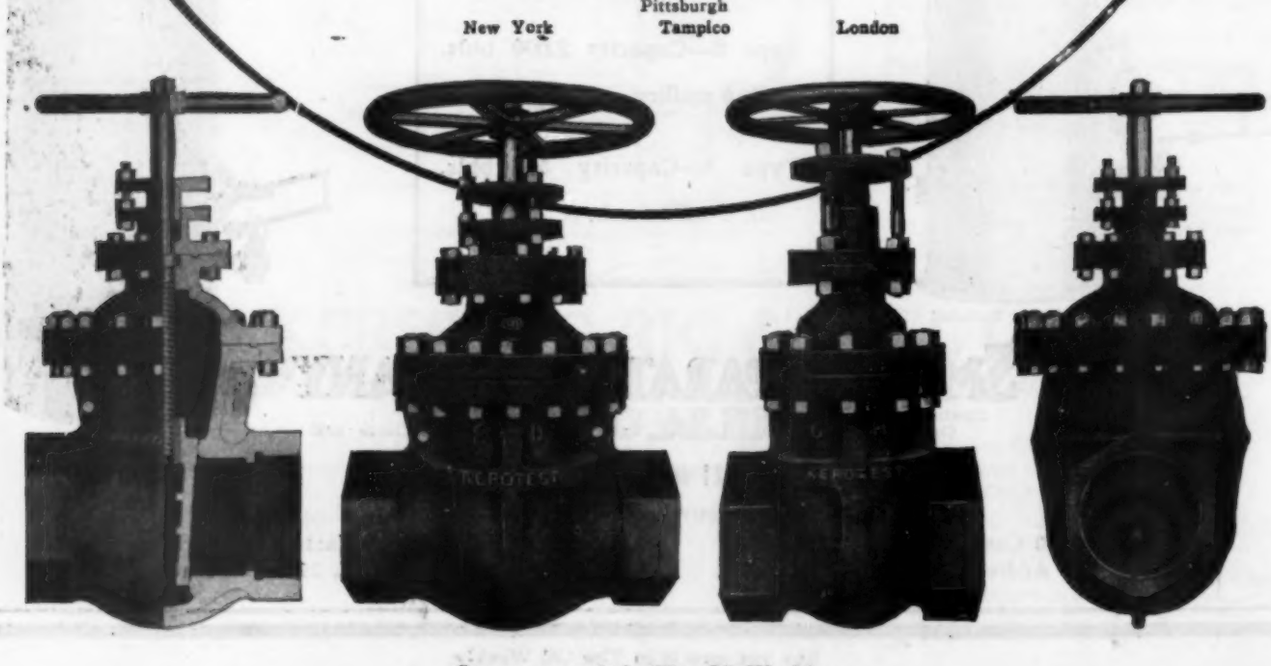
The kerosene tested feature is not the sole reason why you should equip your pipe lines with KEROTEST Valves and Fittings. Their perfect balance and lightness in weight assures the maximum of safety with the minimum of weight and thus afford the greatest economy in transportation and handling charges.

KEROTEST Valves and Fittings are giving remarkable day in and day out performance on some of the most unruly wells in California, Mexico, and Texas. Let us acquaint you more fully with KEROTEST Valves and Fittings by sendihg you the KEROTEST catalogue.

PITTSBURGH REINFORCED BRAZING AND MACHINE COMPANY
PITTSBURGH, PA.

Carried in stock and sold by

NORVELL-WILDER HARDWARE CO., Houston, Beaumont, Shreveport
GRINNELL COMPANY OF THE PACIFIC, Los Angeles, San Francisco
Export Distributors:
OIL WELL SUPPLY COMPANY,
Pittsburgh
New York Tampico London



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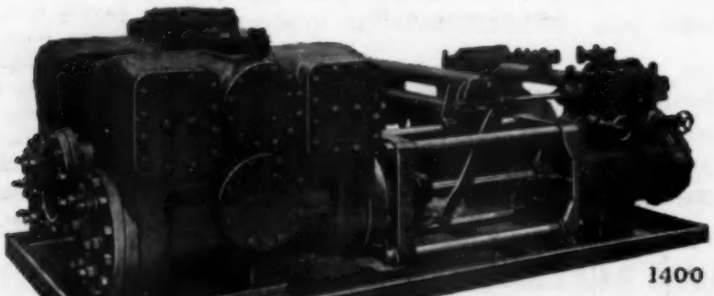

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Mid-Continent Independents Taking More Oil

Some encouragement in situation despite mounting production; North Texas slower

Houston, Texas, Sept. 9.—Although the peak of production in Oklahoma does not yet appear to be in sight, there are several factors that have been injected into the crude market situation that may be taken as encouraging for the time being at least.

Independent refiners in both Oklahoma and Kansas are increasing their crude runs to stills and this is already having a slight effect upon surplus oil in storage. For the entire light oil area of the Mid-Continent, independent crude takings on September 1 were approximately 16,000 barrels a day increase over the runs a month ago. Oklahoma refiners were taking 12,500 barrels a day more the first of the month than last, while in Kansas independents were running to stills about 3,500 barrels more. In North Texas, Louisiana and Arkansas there was but little change reported.

Coupled with the report of increased crude takings by independent refiners and the recent action of The Texas Company to take all currently produced oil offered in North and Central West Texas, there is talk of an early lifting of proration throughout the entire field. This is not borne out by actual field conditions, however, and it is to be doubted if either the Prairie or Sinclair will follow the example set by The Texas Company. Incidently, The Texas Company has not yet extended the 100 per cent buying policy into Oklahoma.

In the event there should be a lifting of proration, there is good reason to believe that such a step would either be inaugurated along with a general reduction in the posted schedule or presage such a price decrease. It is altogether possible that the downward revision in the schedules may come without the lifting of proration.

With a loss in Cromwell in Seminole county in Oklahoma, Burbank and Tonkawa have spurted up. The decline last week in Cromwell may be accounted for by reason of the fact there have been no new operations to be completed with which to offset the natural decline in the field's settled output. Two weeks hence operations now underway may have some effect on the pools crude recovery, but not before then. There are 190 operations now going on in Burbank, the largest number within the last two months, and during the next two weeks wells that are being drilled on acreage sold at the last Osage auction will be coming in. Both Burbank and Tonkawa likely will show an upward spurt in production during the next two weeks.

The reduction in the Corning grade in the east is not to be taken as reflecting a general weakening in the crude market structure in the Appalachian region as this revision has been made in line with the readjustments instituted by the Seep agency some time back. The eastern crude market may be characterized as fairly firm with crude for future delivery over a long time period in active demand.

North Texas Slow

After experiencing a gradual improvement in both crude and refined markets since the middle of August the North Texas district markets appeared to have reached their maximum strength early this week. Sellers of crude and refined oils began showing a willingness to shade prices in order to maintain steady movements of their respective products. Such a change in the market is largely due to domestic jobbers having stocked up on gasoline in the last half of August and during the first

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The OIL WEEKLY wants only such subscribers as are engaged in the oil producing or pipe line business, or sub-branches of the producing and pipe line business. It has no desire for investor circulation, and it reserves the right and will exercise the right to reject subscriptions coming from persons whose interest in the oil industry is through the purchase of oil stock.

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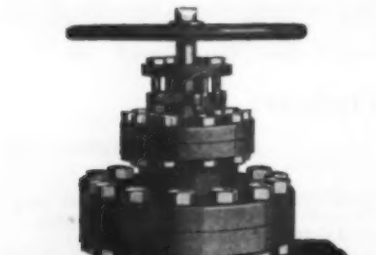
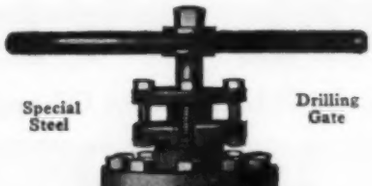


6" Pipe Line Valve



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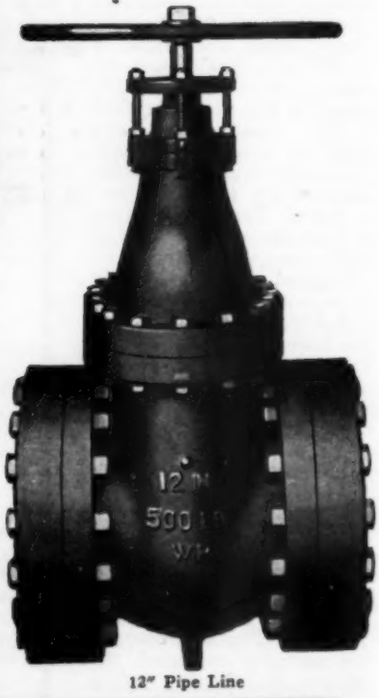


12" Pipe Line

WESTCOTT

Say you saw it in The Oil Weekly

Vacuum Well Opens New Coastal Field

Test in South Louisiana gets 3000-barrel flow —No indication of salt dome shown by log

Lake Charles, La., Sept., 9.—Following several months wildcatting in what has been described as a "typical Louisiana swamp," the Vacuum Oil Company completed a 3,000-barrel well in its No. 1 Miller, early this morning. The well is what might be called a rank wildcat and opens up an entirely new producing area in the Louisiana Coastal district. Production is coming from 3876 feet, with 18 feet of sand, and the well is flowing through a three-quarter inch choke.

Miller No. 1 is located 1400 feet south and 1040 feet east of the northwest corner of the northeast quarter of section 9-10-9w, Calcasieu Parish, about five miles west of Lake Charles. The test was spudded on May 26 and drilling progressed until a depth of 3807 feet was reached late in July. At that depth an oil sand was encountered and tested approximately 50 barrels of oil. However, it was decided to drill deeper and the 3,000-barrel well is the result. The oil tests approximately 23.5 gravity and has a temperature of 86 degrees.

It is believed that a salt dome exists beneath the oil, though no actual indications of such a structure were found. Drilling was in shales, gumboes and water sands all the way down. There was no cap rock or anhydrite, and no unusual drilling difficulties were encountered.

Production from the well is being run into earthen storage awaiting the erection of storage tanks. No analysis of the oil has been made, but it is thought to be pipe-line oil.

No pipe-line connections are available in the locality. Edgerly is the nearest producing area to the well, and is about 10 miles away. Vinton is a little more than 20 miles distant, and in case the well holds up and other producers are completed it is probable that connections will be made to lines at one or the other of these two fields.

The Vacuum Oil Company controls approximately 5,500 acres of land surrounding the producer, but the Gulf Refining Company owns a one-third interest in these holdings.

The Miller well is the third test to be completed on the Vacuum's acreage; No. 1 Lock-Moore, located 1040 feet east and 175 feet north of the northwest corner of the northeast quarter of section 9-10-9w, was abandoned as a water well at 3970 feet, after having struck a good showing of oil. The showing was picked up at 1300 feet, but drilling was carried on to the abandonment depth. Then about six months later a test was made but resulted in a water well.

No. 2 Lock-Moore, located 1550 feet north of No. 1 was abandoned as a dry hole at 2275 feet. No showings of any kind were found in this test.

Some idea of the hazards in connection with drilling these wells can be had from the fact that at certain seasons of the year, the entire vicinity is about four or five feet under water. Before spudding in the first test, it was necessary for the company to construct approximately 5,000 feet of bridge, at a cost of $30,000. Derrick floors and boiler foundations had to be elevated seven or eight feet in order to get out of the water.

A great part of the holdings of the Vacuum Company comprise the approach to a lake, and a big part of this lake itself is included in the holdings.

The producing well is almost in the center of the 5,500-acre tract held by the Vacuum.

Three other tests are being drilled in the vicinity. No 1 Gray, 2250 feet east and 800 feet north of No. 1 Miller is drilling below 3500 feet. No showings have been noticed so far.

No. 3 Miller is drilling below 3200 feet after having had a showing. A test was made following the picking up of the sand, but water resulted. The test is now being deepened.

No. 1 Bordages, 800 feet west of No. 1 Miller is now down below 2500 feet without having encountered any showing. Formations are running good though, much the same as in Miller 1.

---

few days in September, and are no longer buying heavy, while the export buyers are delaying gasoline purchases to cover on orders already booked in anticipation of a slump in prices owing to the slackened domestic demand.

The spot crude market reached a high level of $1.45 per barrel on the best grades of crude in Wichita County late in August, but has since developed an unsteady tone, with prices now ranging from $1.35 to $1.42½ per barrel. Failure of The Texas Company to buy in the large quantity of storage oil accumulated in its lines and tankage during its period of proration in North and Central Texas has given rise to the belief among some of the producers that a crude cut is to be expected before this oil is taken off the hands of the present owners. Independent refiners and several of the major pipe line companies that were actively soliciting new crude connections for contract over a period in the various fields have been less conspicuous during the past seven days. Humble is one of the major companies that were after new connections, particularly in the Wichita-Archer County area and in the Corsicana-Powell and Richland fields, but has announced that its requirements for the time being have been filled.

Humble has completed about 22 miles of its new pipe line from the southern part of Wichita County via Archer County to its Fambrough pump station in Stephens County, and will have the new line in operation next month. Humble is reported to have contracted for about 4,000 barrels of additional oil in the Wichita-Archer County area, besides the outside production that has been bought heretofore in the Burkburnett field. Crude oil purchased by Humble in the Corsicana-Powell and Richland fields was recently increased by taking on between five and six thousand barrels additional daily runs, and during the past week Humble is reported to have turned down offers of more oil for purchase in this area.

Export buyers are closely observing the trend of the gasoline market in the North Texas district, and one large buyer posted an offer to buy 64-66 gravity gasoline for immediate shipment at a greatly lower figure than the prevailing quotations, but did not cover. The settlement of the European situation is expected to afford considerable export business for the North Texas refiners over the balance of the year.

The Galena-Signal Oil Company of Houston placed spot orders for more than 100 cars of high test gasoline during the past week to cover on a mixed cargo of products, and is reported to have paid the price being quoted by North Texas refiners.

The movement the past week of 8,698,838 gallons of gasoline from Los Angeles Harbor to England by tankers should have a little effect on the California market situation. Also during the past month tankers have been departing from San Francisco district carrying gasoline from Union refinery to apply on that contract calling for 500,000 barrels of gasoline to be delivered to Atlantic Oil Refining Company. The contract calls for delivery within ninety days.

The decline in production of crude in the Los Angeles Basin is also a help to the general situation. California operators are watching Oklahoma very carefully as they feel that the mounting production in that State will break the Mid-Continent and they feel that a 25-cent cut back there will bring about a cut of around 15 cents in California.

Los Angeles Case Oil Movement for Six Months

Los Angeles, Calif., Sept. 6.—Movement of petroleum case goods out of Los Angeles Harbor the first six months of 1924 reached a total of 914,800 gallons of gasoline, 1,845,372 gallons of kerosene, and 352,170 gallons of other refined petroleum products, according to Victor Killick, statistician of the Independent Petroleum Marketers Association of California. The movement was distributed as follows:

Gasoline—South America, 21,100 gallons; Japan, 686,970; China, 100,000; British Columbia, 250; Australia, 106,380.

Kerosene—South America, 129,310 gallons; Japan, 40,030; China, 1,663,080; British Columbia, 1,410; Hawaii, 42; Phillippine Islands, 11,500.

Other Oils—South America, 8.826 gallons; Japan, 518; British Columbia, 23,524; Hawaii, 319,302.

Stocks Up 5,000,000 Barrels in July

Flood of oil in new fields boosts storage total to above 356,000,000 barrels in U. S.

At the close of July, figures compiled by the United States Geological Survey, indicated an increase of more than 5,000,000 barrels in pipe-line and tank-farm stocks for all districts of the country as compared with June. This increase in stocks came about in spite of a slight decrease in the total output of all districts, as well as a falling off in the amount of oil imported. Total stocks of pipe-line and tank-farm crude east of California, producers', pipe-line and tank-farm stocks in California, and stocks of imported crude petroleum held in the United States by importers elsewhere than at refineries, at the end of July, amounted to 356,240,000 barrels. This was compared with 351,218,000 barrels for June.

Stocks of crude petroleum for statistical purposes are classified as follows: Producers' stocks consist of petroleum held on the producing properties, lease or "field" storage. Pipe-line and tank-farm stocks comprise oil that has been transported from the producing properties but not delivered at refineries or at other points of consumption. Such oil is usually held at tank farms. Refinery and other consumers' stocks are petroleum that has been delivered at refineries and at other points of consumption.

According to the report, daily average production of crude oil for all districts of the country declined 4,045 barrels; daily average imports decreased 12,258 barrels; daily average exports fell off 5,980 barrels, and daily average indicated deliveries to domestic consumers decreased 23,423 barrels. It can be seen from this report that the decrease in daily average deliveries to domestic consumers was greater than the combined decrease from production and exports. This would result in an accumulation of stocks.

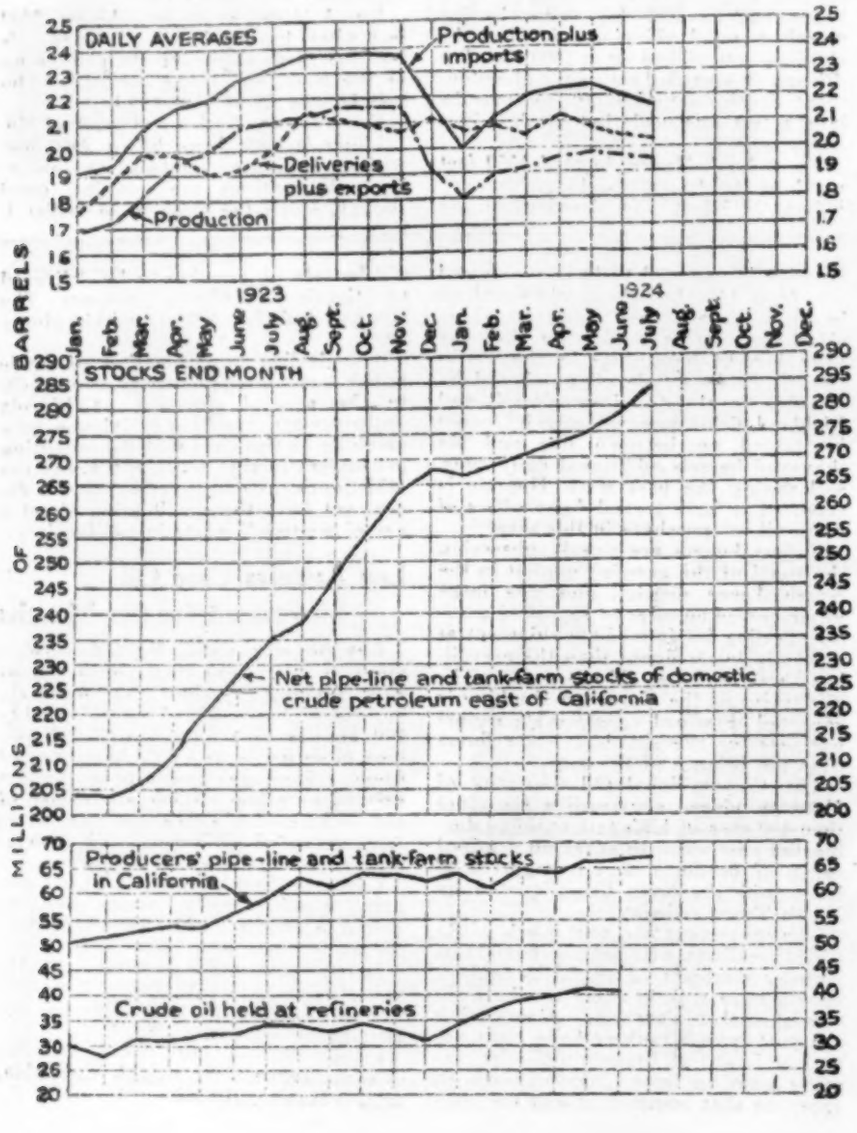
Figures compiled from declarations by masters of vessels taking oil to eastern ports of the United States by way of the Panama Canal showed a substantial decrease in the total amount of petroleum products shipped from California during July. This decrease amounted to 488,000 barrels of crude oil, and over 4,000 long tons of refined products.

Curves indicate that stocks have maintained an upward tendency throughout the entire year.

Increase in stocks were distributed over all fields with the Mid-Continent easily taking the lead. That district was responsible for more than 2,000,000 barrels increase. This is a significant fact inasmuch as proration of crude runs and restricted drilling campaigns marked practically every field in Oklahoma, the dominating state in the Mid-Continent group. There was an agreement among Oklahoma producers, notably the bigger companies, to try to cut production as much as possible, but figures indicate little success in spite of these efforts. Cromwell and Tonkawa combined to boost the output of the state. Daily average production of the Mid-Continent area is shown to have been approximately 1,000 barrels more per day during July than June.

Indicated deliveries of domestic and imported crude to domestic consumers show a decrease in every district.

Based on the average daily rate for month of deliveries to domestic consumers and exporters, there was on July 31, a supply of pipe-line and tank-farm stocks sufficient to last 176 days.


DAILY AVERAGES
Production plus imports
Deliveries plus exports
Production
BARRELS
1923
1924
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.
STOCKS END MONTH
Net pipe-line and tank-farm stocks of domestic crude petroleum east of California
MILLIONS OF
Producers' pipe-line and tank-farm stocks in California
Crude oil held at refineries

Mine Safety Men Working In California Oil Fields

J. M. Harrington, foreman miner, and C. P. Anderson, first-aid miner, Department of the Interior, attached to the Berkeley, California, safety station of the Bureau of Mines, are engaged in an extensive itinerary in the California oil fields, having for its object the training of employes in first-aid work. Mr. Harrington will be at Berkeley until September 12 training first-aid teams in the San Francisco Bay district. From September 15 to 26, he will train the employes of the Union and Associated Oil Companies at Stockton, California. From October 6 to 8, with Mr. Anderson, he will attend the California State First-Aid contest at Riverside. Mr. Anderson will train first-aid contest teams at Taft from August 25 to 30. From September 1 to 6 he will conduct training at Bakersfield; from September 8 to 19 at Santa Maria, and from September 22 to 26 at Santa Barbara. United States Bureau of Mines rescue car 1 will be stationed at Watson, California, for training purposes until August 29. The car will be at Huntington Beach from September 1 to 12; at Norwalk from September 13 to 24; and at Riverside from October 5 to 8.

Tank and portable air tools of Tidal Oil Company used for cleaning out wells in North Oklahoma

Develop Method of Cleaning Wells With Air

Experiment on wells at Dewey, Oklahoma, proves new method efficient and economical

By Grady Triplett

Bartlesville, Oklahoma, Sept. 10.—The practicability of compressed air as an agent for cleaning out old wells has been established after a month of experiment and demonstration in the district around Dewey. The work has been accomplished on properties of the Tidal Oil Company. The equipment has been under the supervision of Clyde I. Layton, district superintendent for the Tidal. He supervised construction of the equipment, which was built under basic patent held by Smith, Dunn and Lewis of Tulsa.

The use of air involves building up a pressure of not less than 350 pounds in a portable container and then discharging it through tubing, within the caved area of the hole, blowing the cavings from the hole through the annular space between the tubing and the casing. The equipment as used around Dewey has been for wells no deeper than 2000 feet. An increased volume of air would be necessary for cleaning deeper holes.

Use of air for cleaning out old wells can be adapted to meet conditions peculiar to each well. Those around Dewey are shallow wells, many of them completed as long as 10 years ago. The practice at the time of drilling was to leave a distance of open hole through a shale formation, overlying the producing sand. Often the last casing string was landed 75 feet above the oil sand.

In recent years the shale of this open hole has caved, falling around the tubing and then into the cavity where oil formerly was picked up in the sand. This has resulted in the face of the sand being faced over with foreign matter. The result has been falling production from old properties.

Until the adoption of compressed air, the practice was to clean these wells by the ordinary method of pulling rods and tubing, pulverizing the caved shale with a string of tools and bailing the substance from the hole. While this was successful, so far as bringing the wells back was concerned, the cost often amounted to as much as the drilling of the original well, while the process required more time than was economical.

The effect of discharging a "shot" at the cave in the bottom of a well

In his efforts to find a quicker and cheaper method of reviving old wells, Mr. Layton hit on compressed air and his persistence resulted in the building of the equipment and its use. Only one set of air tools has been built for the company. It was assembled in part by adapting other equipment.

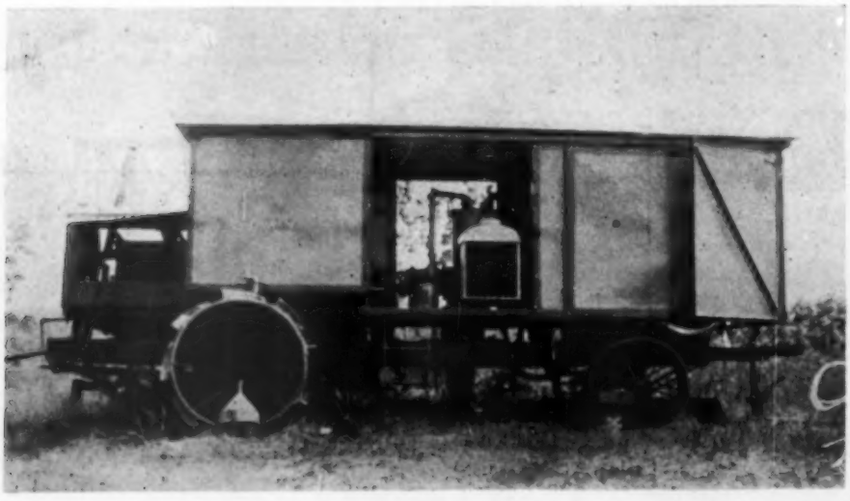
The compressor is mounted on a frame built for a Dill tractor, 75 h.p., already owned by the company. This tractor pulls the equipment from well to well and furnishes power for driving the compressor. The compressor is an Ingersoll-Rand, two stage, type E. R. 2, 8x4¼x8, belt driven. A radiator is used for intercooling between the high and low stage.

The tank was built for the Tidal Company and is 24x3½ feet, tested to 525 pounds. Mr. Layton believes the tank should have tested pressure of 2,000 pounds and other tanks will be of that type of construction.

As now used, the compressor is pipe connected with the end of the tank but a hose capable of standing 2,000 pounds pressure will be adopted for taking air from the compressor to the tank.

Before this equipment is brought to a well, the condition of its caving is determined. The pulling machine is set up and rods pulled. Then the tubing is lifted to a point just higher than the top of the cave. In this condition, pressure from the tank is discharged through the tubing downward against the cave. The purpose of this is to pack the caved shale into a small area. In the well shown in the illustration, 71 feet of caving was found. Three "shots" from the tank packed this into a distance of 45 feet. The object in packing the caved shale is to eliminate the amount of void space between rocks and shale in the cave.

Each "shot" discharges all air in the tank, within three or four minutes. It



Housed tractor, containing motor and compressor

is necessary to wait 45 minutes for filling the tank to 350 pounds. With the cave packed, the hole is ready for cleaning. Pressure again is built up in the tank and the tubing is lowered until it is in the top of the cave.

Simultaneously with the discharge of the air into the top of the cave, water is pumped into the hole in a small quantity, not more than three barrels. Water in the top of the cave has been found helpful in filling void space and forcing the air to lift the cavings rather than passing through them.

With water turned in, the air pressure is released through the tubing, which is lowered into the cave, as the cavings are blown from the hole. One man opens the valve from the air tank into the tubing, while another lowers the tubing.

Working this way it has been found possible to flow from 10 to 20 feet of cavings from a hole, at each discharge of the tank. The material comes from the hole in the condition under which it has caved, often rocks which hardly seem capable of passing through the space between tubing and the casing.

These "shots" are continued until the bottom of the hole has been reached. The number varies, depending largely on conditions of each well and in part on the effectiveness of keeping the tubing in the top of the cave, as each discharge is taking place.

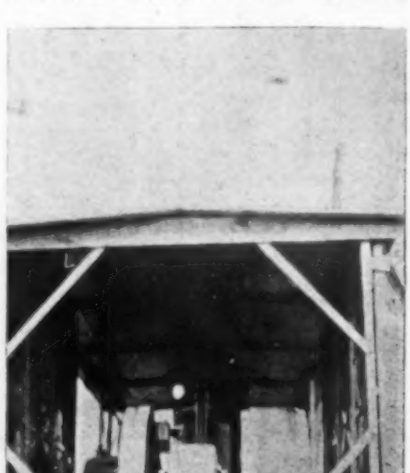
After the cave has been removed, compressed air and water are then used to wash the coating off the face of the sand. To accomplish this, water is pumped into the hole. Then the tubing is lowered to the sand level, where the air is discharged and the rush of the water from the sand and up through the casing removes away the coating that has accumulated on the face of the sand. With this finished, the well is ready for lowering the tubing to the proper level, putting in the standing valve and preparing to pump. Three days is a maximum time for working over a well with compressed air.

The process has not been used long enough by the Tidal Company to permit calculating the average cost. But Mr. Layton believes the cost will not exceed $100 and will be between that and $75. Cost of accomplishing this with other methods has been as high as $2,000.

The chief value of the compressed air method, however, is that it removes the coating from the face of the sand. In every instance on the Tidal leases, the wells cleaned by compressed air have yielded higher production than have wells cleaned by pulverizing the caving and then bailing out.

For cleaning a well deeper than 2,000 feet, Mr. Layton says he would use two tanks of compressed air at each "shot". The 350 pounds pressure he believes sufficient for any depth but the volume of air discharged should be larger for deeper wells.

The deeper well also would require pulling equipment sufficient for handling the tubing of the depth. In the work around Dewey, the Tidal wells have been cleaned with the assistance of a pulling machine, driven by friction wheels off the rear wheels of a Ford truck. This power is sufficient for handling the tubing to 2,000 feet and it has the added feature of allowing the operator of the motor to stand over the well, so he can lower the tubing as the air is discharged into the cave.



Rear of tractor, showing compressor.

Present plans of the Tidal Company are to add several more units of air tools, so that all wells may be kept pumping at a minimum of time.

Arkansas Heavy Oil Continues Decline

El Dorado, Ark., Sept. 8.—Production averages from the heavy oil district of the Smackover field continue to decline, a loss of 4,000 barrels a day having been recorded last week. Production in this district is settling rapidly.

The first showing of oil from the deep sand underlying the heavy oil district was reported last week from Clark & Melat's No. 1 Murphy, in the northeast corner of section 4-16-15, of Union County. This well, formerly a gasser from a depth of 2,268 feet, was drilled nine feet deeper; and came back making 25 million cubic feet of gas and 150 barrels of heavy cut oil per day, through a ¼-inch choke. This same sand produces light oil in the Louann district, but has heretofore produced only gas in the heavy oil section of the field.

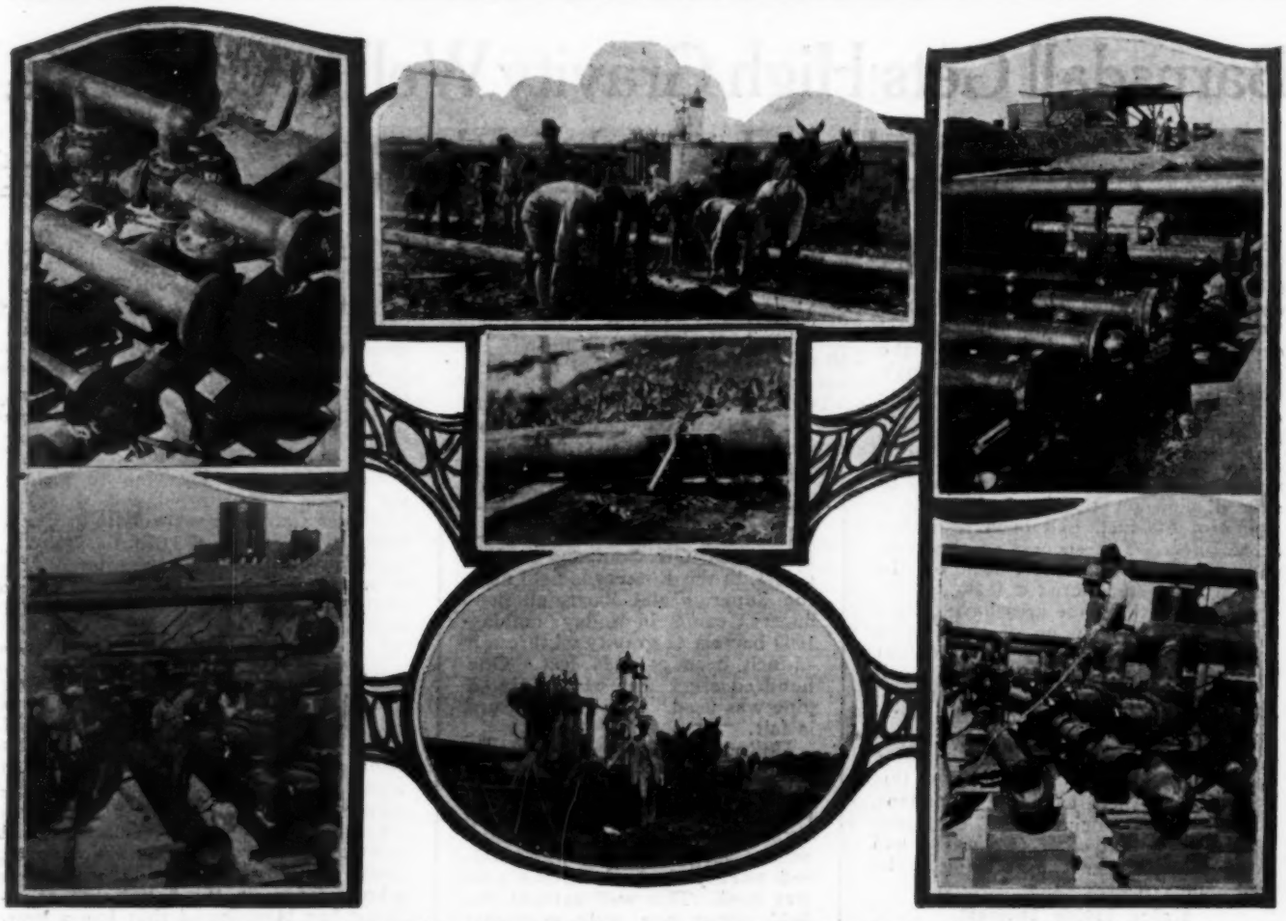
Announcement was made yesterday of the consummation of a deal whereby the Arkansas holdings of the Empire Pipe Line Company, of Bartlesville, Okla., were sold to the Crusader Pipe Line Company, a recent entrant into the El Dorado-Smackover fields. Property involved in the sale includes a loading rack, pipe line and gathering system, an 80-acre tank farm, and approximately 450,000 barrels of oil in storage.

Several weeks ago, the Crusader company purchased at receiver's sale, the gathering system, pipe lines, and other assets of the Arkansas Pipe Line & Navigation Company for a consideration of $129,000, said to approximate about one third of their cost.

British capital is said to be supporting the enterprise, the ultimate plan being to lay a trunk line, first, to Monroe, La., whence oil will be barged down the Mississippi River to the Mexican Petroleum Company's refinery at Destrahan, La. Later, the link between Monroe and Destrahan may be completed.

At present, the Crusader company is purchasing in the neighborhood of 10,000 barrels of oil per day. Its officers are as follows: President, W. R. Davis, Tulsa Okla.; Vice-President, Austin B. Taylor, El Dorado; Secretary-Treasurer, Morris Geye, El Dorado; General Manager, L. B. Hibbs, Tulsa; Pipe Line Superintendent, Wm. Delahinty, El Dorado.

James W. Rich, president of the Dome Development and Petroleum Company, Houston, has returned from a business trip to New York and other points east.



Pictures taken during various stages of construction on the welded line of the Magnolia Petroleum Company from the Luling field to Hull Junction. This is the first welded line to be laid in South Texas.

Magnolia's Long Welded Line Efficient Job

One joint found bad when welders finished on 182-mile Luling-Hull Station pipe line

By H. H. King

Luling, Texas, Sept. 1.—Three pin hole leaks, a split joint of pipe and one bad weld were the only flaws found in the Magnolia Petroleum Company's 182 miles of 8-inch welded oil line from Luling field to Hull junction station, when it was tested recently with water and partly with air. This line is one of the longest oil lines in the country having all joints welded by oxy-acetylene flame, and was completed in less than 100 working days, although four river crossings were necessary and its path was crosswise the drainage system of South Texas. The total cost of the line along with four pump stations is estimated at $2,000,000, and it has a daily capacity ranging from 18,000 to 19,000 barrels of Luling crude, but is only handling 10,900 barrels now owing to two stations not completed.

Actual construction work on this long welded line was begun on the Luling field end on April 9, and it was tied in with Magnolia's Mid-Continent trunk line system at Hull, Texas, on July 25. Some delays were experienced by frequent rains in the early part of the summer and flood waters, while the path of the line often extended through sections lacking roads or bridge crossings. In order to speed up the completion of the line construction gangs were used on both ends.

Each of these construction crews included a gang of 12 men used to line up the pipe ahead of the welders, and the pipe was lined up in sections of five joints and clamped end to end, with small blocks of timbers used to raise the pipe a few inches above the ground. The advance welding crew, which consisted of four welders supplied with flame from four generators, welded the four joints in this first section of pipe. A second crew of welders known as the tie-in gang followed the advance crew, and welded five of the five-joint sections into one 25-joint section, which is the maximum number of joints of 8-inch pipe that can be conveniently rolled over on blocks and maintain speed. A third crew of welders known as the bell-hole gang trailed behind, and tied in the 25-joint sections into the completed part of the line. Since the pipe could not be rolled over in making their weld, the bell-hole gang lie flat on their back in a pit, or bell-shaped hole, to use their torch on the bottom part of the joint.

After the welding and lineup crews became organized and each man proficient in his particular task, an average of one mile per day was made in welding the line, while on one nine-hour working day a gang did 400 joints of pipe.

In making river crossings the necessary length of pipe was welded on the river bank, and pulled across with tractors or teams. A plug was welded on the end of the pipe to keep the interior clean while being pulled across the stream, and later cut off with a torch. In some of the streams it was necessary to build temporary barges to float the pipe across.

The section of the line between Luling and Sealy pump stations was completed and tested first. The test revealed that it had only three pin hole leaks and a split joint of casing, which was promptly cut out of the line, while the last half of the line had only one bad weld. Both air and water was used at pressures up to 700 pounds per square inch in making this test.

The four pump stations on this line are located about 45 miles apart, and

Barnsdall Gets High Gravity Well in California

New field near Los Angeles now has second producer making better than 42 gravity oil

By W. E. Green

Los Angeles, Calif., Sept. 6.—The Barnsdall Oil Company of California this week completed a well in the Rosecrans field near Los Angeles for 850 to 1000 barrels of 42.2 gravity oil at a total depth of 4369 feet. It offsets to the north the Superior Oil Company's Maxwell, which is now making 950 barrels of 42.5 gravity oil from 4403 feet through 19-32 inch bean.

The Barnsdall producer ran in a string of 4½-inch with seven joints of slotted pipe on the bottom, while a string of 6¼-inch had been cemented at 4237 feet. The success of the company in securing a water shut off the first trial is considered a feat, as several wells in the same area have drilled into the pay, but none of them were able to shut off the water at the first trial. The same company's O'Day well failed to get a shut off the first trial and will have to re-cement.

The first high gravity producer was the property of Superior Oil Company, just south of Barnsdall's well. At this test it was necessary to re-cement. Nearby the Associated Oil Company had to re-cement some two weeks and so far has not been able to bring in the well.

Union Holds Interest

The Barnsdall Oil Company (formerly Potter Oil Company in California) held considerable acreage in the Rosecrans area and the acreage to the north and west was turned over to the Union Oil Company and a well was completed at 4971 feet, and is now making 615 barrels of 36.6 gravity oil through 7-16 inch bean. The Union completed the first well and shares with the Barnsdall. The latest Barnsdall well was drilled by Barnsdall and 30 per cent of the production is the property of the Union and the oil will be run by the Union.

The daily average production of the Rosecrans field at this time is close to 2500 barrels, although figures for the past week do not show this since the new well had not been on production all of the week. Forty-eight wells are now drilling in the new field and inside of the next thirty days this number should be increased to between 60 and 75.

Two Fields are Close

The Rosecrans field is west and north of the Dominguez field, where the daily production has reached a total of 30,000 barrels a day. The Dominguez production ranges in gravity from 30 to 32 with the depth of the producers ranging from 3880 to a little below 4300 feet. Twenty-five wells are drilling in the Dominguez with ten new locations being made in the past two weeks. In another thirty days probably as many as forty wells will be drilling. By the middle of October at least 100 wells should be active in the two fields, which are very close together.

Los Angeles, Calif., Sept. 8.—Associated Oil Company's Higgins 1, in the Rosecrans field near the Superior and Barnsdall producers, came in today making 1000 barrels 41 gravity oil through ¾-inch bean at 4384 feet. One hundred sixty feet of perforated pipe was used. The gas pressure is fair.

United Oil Company's test in the southeastern part of Dominguez field has been completed for 1500 barrels of 31.4 gravity oil through ⅝-inch bean with bottom of hole 4232 feet. One hundred twenty feet of slotted pipe was used. This well extends the field about one mile southeast and is near a 5000 foot dry hole.

One authority has estimated that the production in the two fields will be around 60,000 barrels a day by January 1, but present indications are that the production will exceed that. For instance, the Barnsdall well was drilled to completion in 88 days. The other wells, without unusual trouble should be able to complete in that time and in some instances less. Of course not anything like all of wells now drilling will be producers by the end of the year, but it is entirely possible for the production to be around 75,000 barrels daily in the two fields by that time.

Long Beach is Off

During the past week, Long Beach production dropped off 4,000 barrels, falling for the first time in many months to a production of less than 150,000 barrels. Santa Fe Springs came back and showed an increase of 500 barrels a day, while Huntington Beach held its own at 42,000 barrels a day. Torrance was off again, losing 1000 barrels in daily average the past week. Los Angeles Basin production was off slightly more than 2000 barrels daily, compared with the previous week, but slightly exceeded two weeks ago. Due to new wells at Dominguez the next month or two, there should be rather small declines, if any, in the Los Angeles Basin in the next sixty days.

Deep Wells Look Bad

At Rideout Heights in the Whittier old field, new wells being drilled in an effort to pick a new sand found in one well some months ago are getting fairly deep with no real encouragement. It begins to look very much as if the deep sand well was a freak and may have caused several companies to spend considerable money trying to pick it up. Wells drilled to below 4000 feet in Southern California, especially in a new field, usually cost $75,000 to $150,000, according to trouble encountered. So it is not necessary to drill very many wells in a new area to bring the total cost up to $1,000,000.

Oil Sand in Wildcat

The Petroleum Products Syndicate picked up what appears to be a very rich oil sand at 5260 feet in its test about two miles east of production at Santa Fe Springs in the La Mirada area. A string of casing is being cemented and a test will be made. This report has caused some excitement and in some quarters it is doubted if a producer results, although there are others who are firm in the belief that something has been found that has a bearing on further drilling in that district.

The Shell Company has drilled its test at Cerritos, northwest of Long Beach, to a depth below 6200 feet in an effort to pick up a deep sand, but so far have been disappointed.

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are at Luling, Schulenburg, Sealy and Aldine. The Luling and Sealy stations are the only ones in operation at present, but the other two are scheduled for completion shortly. In carrying out the welded feature of the line, all joints, ells, tees or other fittings, except those smaller than two-inch, are welded in these four stations, as is the case with the manifold and crossover work. Each station is equipped with Gould pumps, and two 100 h.p. and one 200 h.p. De La Vergne engines.

207,139 Barrels Los Angeles Gasoline Shipped to England

Los Angeles, Calif., Sept. 6.—Thirty-three tankers left Los Angeles Harbor the past week carrying 1,516,147 barrels of crude, 573,865 barrels of fuel oil and 207,139 barrels of gasoline. No kerosene moved. Of the total crude moving, 953,240 barrels went to Atlantic domestic ports. Of the 11 tankers to this district, one went to Fall River, two to Philadelphia, and eight to Bayonne.

The gasoline that moved all went to England. The movement of gasoline from San Francisco district is still considerable and it is believed that stocks in California will be drawn upon during the past month and probably during September.

The record for the past two weeks, in barrels, follows:

	Last Week	Prev. Week
Tankers departed	33	28
Total crude moved	1,516,147	1,603,006
Total fuel moved	573,865	486,604
Total gasoline	207,139	104,289
Total kerosene	.....	.....
Crude, Pacific domestic	562,907	695,449
Fuel, Pacific domestic	269,730	208,031
Gasoline, Pacific domestic	.....	35,733
Crude, Atlantic domestic	953,240	907,557
Fuel, Atlantic domestic	.....	172,654
Crude, foreign	.....	.....
Fuel, foreign	304,135	105,919
Gasoline, foreign	207,139	68,556

Field Boilers Deserve Close Attention

Most important item of operating equipment —Some sidelights on construction and maintenance

By Harry Pennington
Mechanical Engineer

Proper treatment of field boilers will prolong the life of this equipment many years and will thus save a large sum annually in operating costs. For this reason close attention should be given to the construction and maintenance of this field item.

The accompanying article concludes the discussion started in the September 5th issue of The OIL WEEKLY on "Field Boilers". Mr. Pennington the author of the paper is a well known mechanical engineer and gives his findings after considerable study and research.—The Editor.

IN washing boilers, high pressure water knocks off sale and cleans better; at least 100 pounds is required to knock off hard scale.

In replacing handholes, the gaskets will not adhere to the inside of the sheet if graphite mixed with oil is used between; the inside of the sheet, of course, should be free of scale so that the gasket seats perfectly to prevent blowing the gasket.

Priming and foaming in a boiler are somewhat different matters; priming is the lifting of water in a body, caused by the little steam jets crowding one another through the water and at the surface, which also entrains water and carries it out, making wet steam; while foaming may be caused by flocculent particles of light scale floating on the water surface and interfering with steam liberation. Both cause wet steam and both are dangerous to the crown sheet.

Priming may be detected by the water level in the gauge glass and gauge cocks rising when the engine throttle is opened; and by sinking to lowest point, perhaps below the lowest gauge when the throttle is closed; wet steam may be detected in engine and pump exhaust, when it is more than usual; water in wet steam washes lubricating oil out of the steam chest and cylinders and cause groaning, excessive friction, perhaps even scoring the valve, valve seats and cylinder walls.

Priming can lower the water level suddenly, so much as to fuse the soft plug or even burn the crown sheet, although the water level might have been considered sufficiently high to prevent.

Priming can be reduced by opening the throttle slowly and closing it slowly, by opening stop valves slowly, by starting pumps and stopping them slowly, to avoid a rush of steam out of the boiler or a sinking of the water level.

Frequent blowing will stop priming. The writer has observed by test, a concentration within the boiler of twenty-six times the salt content of the raw boiler feed water, due to evaporation of water, leaving the salt behind, in the boiler, which continues as steam is taken from the boiler. But frequent blowing off remedied priming trouble.

Blowing off removes more scale if it is done while the boiler is quiescent. When the boiler is being steamed, or fired, circulation continues but when the boiler is allowed to stand a while with the damper closed, the water stills within it, scale settles, and the blow off removes some of it, as well as taking out some of the concentrated water and permitting dilution with fresh water.

Taking steam from a boiler with the fire out reduces boiler temperature quickly, causing flue and stay bolt leaks and sheet stresses. Lowering temperature always produces wet steam, too, and for these reasons should be avoided.

The intervals of daily blowing off required may be determined by careful observation of priming; the interval required to wash boilers may be best determined by observing boiler performance also. Washing once a week may not be necessary because some water used may require washing every three weeks or four only, while other waters may require washing every three or four days.

In emergency, a couple of quarts of unslaked lime mixed with water and pumped in, stops priming.

Steam cylinder oil has animal and vegetable fats in it and inside of the boiler will cause foaming due to forming a scum on the surface, preventing liberation of steam.

The boiler surface blow off, consisting of a flattened funnel, kept floating on the surface removes by skimming off much of such floating material, and for heavy work keeps the boiler in condition in this respect.

When emptying a boiler for washing, the boiler should cool with water in it. To blow off 75 or 100 pounds means to cause trouble and leaks; six or seven hours should be allowed for the boiler to cool anyway, before draining and longer time is better.

When boilers are taken out of service and stored, they may deteriorate more than when in service. Sulphur in fuel oil vapors and soot form sulphur dioxide and moisture from the air then forms sulphuric acid which attacks the tubes. Therefore the tubes must be brushed clean and then by washing with milk of lime, any acid formed is neutralized. The boiler may be kept filled with water for three months, but longer than this requires draining and drying inside to prevent corrosion. In winter, if a boiler is allowed to freeze, particularly in the water legs, the sheets are spread, lengthening or pulling the staybolts and causing troubles.

The use of injectors is gradually being displaced in favor of pumps, although almost all drilling boilers have injectors for relay use. Therefore, it is not necessary to go into the injector, except to say that an injector may be selected for the duty, there being single tube non-starting, double tube, and re-starting types. The double tube has one nozzle that lifts water and another that receives it and delivers into the boiler and will re-start, should it "break." Failure of injectors to work is due more to air leaks in the suction pipe and in the valve stem stuffing boxes than to the injector, although the injector will not handle hot water and neither will cold water be handled if the tube is hot. The tubes and checks may be kept clean by immersing and washing in dilute muriatic acid, a 10 per cent solution, or common household vinegar will remove scale.

Wet steam cuts nozzles and check seats of the injector and valve seats and the injector steam pipe should therefore be taken vertically from the top of the main steam pipe to avoid water as much as possible.

There should be two check valves between injector discharge and boiler, one at the injector and one at the boiler.

Obstruction in suction, scaled up nozzles, air leaks in suction, leaky steam valve, leaky check valve, hot suction pipe and hot feedwater will prevent injector from working. Shutting stop valve will assist in starting, and, when no water can be gotten into the boiler, the stop valve should be closed anyway to hold water inside of the boiler to avoid putting out the fire because of low water.

If the water level falls below first gauge, the water level can be found by opening safety valve quickly or opening engine throttle quickly.

The feedwater supply is used to regulate steaming but excessive amounts of cold water should not be used to prevent popping off because rises in steam pressure can usually be anticipated.

Boiler connections, according to the code, must have swing from boiler nozzle to steam main, when two boilers are used. This form of connection is shown in Figure No. 6.

There is also a drawing, Figure No. 7, showing flanged fittings for steam connections, rather than screw fittings. It will be noted that there are five screw joints in the steam connection with screw joints, while there is only one with the flanged fittings, which makes it necessary only to take out eight flange bolts to remove the steam connections.

And, should the boiler be fitted with a flanged steam nozzle, there would not be any screw connections whatever

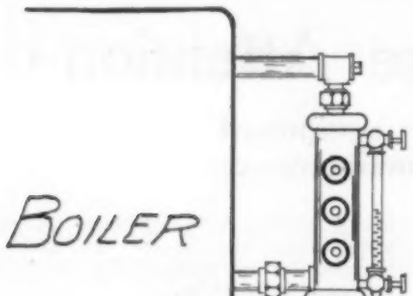

Fig. 5

in the steam line, making it unnecessary at any time to climb up on the boiler with chain tongs to take the piping down to move the boiler. The same applies to feedwater connections, to blow off connections and to the auxiliary steam line used for boiler feed-pump and lighting turbo-generator.

Flanged fittings represent the best steam piping practice anyway, because there are no screw joints that may leak and require shutting down to tighten them up. These fittings are small, to be sure, but they must be taken apart for moving and the arrangement shown facilitates such.

An automatic stop valve is a useful thing, when two or more boilers are used, and this valve is a code requirement. When one boiler is being steamed up to be placed on the line with a hot boiler, the automatic stop valve opens to the steam line when steam pressure equals that in the line, and only until then; when one boiler is colder than the other, it may float on the line and serve as a condenser, taking steam from the other boiler or boilers, but when the automatic stop valve is used, it closes against steam entering but opens again when steam pressure equals that in the line; when one boiler is being repaired or washed, the automatic stop valve prevents steam from entering and scalding workmen in or about the cold boiler; in drilling operations, one boiler only is needed at times, as when coming out of the hole and it is only necessary to cut out the fire under one boiler (and close the damper) and when steam pressure lowers, the valve automatically closes, cutting it out of service. When steam pressure is again raised in this boiler, the valve opens to the line, which saves the fireman many climbs to the top of the dome to close and open the globe valve. The globe valve, used for stop, however, cannot be omitted, but is seldom used when the automatic stop valve is installed.

Automatic stop valves are made in two types; one prevents steam from entering the boiler as outlined, while the other type, in addition, prevents a great rush of steam out of the boiler should a steam line break or any other accident happen that might open the boiler to the air through the steam pipes. And some types can be closed by hand, but not opened by hand; steam pressure being required to open.

The dry pipe has not been applied to the field boiler generally, although this is an efficient remover of moisture from wet steam. This pipe is placed inside of the boiler and consists simply of a pipe with holes drilled or slots cut in the top side, through which steam enters and travels to the boiler nozzle. When steam is rising from the water surface, it must turn sharply to enter the holes on top of the dry pipe, and the entrained water being heavier than steam, tends to continue in its path, while steam is allowed to enter the holes after separating from such moisture, so that the boiler delivers steam that is more free of moisture. Dry pipes are used on large installations of water tube boilers and on locomotive boilers and are very useful.

The steam dome of the oil country boiler serves as a separating space, due to the fact that the area is large, and steam passing through travels more slowly, allowing moisture to settle out somewhat and pass back to the boiler. Over the wagon top, the dome is a source of weakness and also over the barrel, and boilers with small domes, but with dry pipes appear to steam just as well as large dome boilers.

The burner used in the oil country is usually of the Gem type; it is so well known that no description is necessary. It has one excellent advantage and many disadvantages. Its advantage is in its somewhat automatic action; when it is set for load carried, as in cable drilling, and steam rises above a certain point, due to less load on the boiler, the rising steam pressure shuts off a portion of the gravity fuel oil feed, lessening the flame, and, when steam pressure lowers, fuel is again admitted and firing is resumed without attention from the fireman or tool dresser.

Intermittent firing though is not economical as to fuel or boiler maintenance, but the method is very convenient.

The disadvantage of this burner is that it requires considerable steam for atomization, and does not atomize as finely as a better burner should.

Heating fuel oil assists in atomization and a fuel oil heater is easily arranged by passing the oil through coils of 1" inside of a piece of 6", with the pump exhaust going into the 6" around the 1". By closing the exhaust steam outlet from the 6", the pressure may be raised to ten or twelve pounds to heat the oil more. In summer time, simply surrounding the fuel pipe from tank to burner with 4" and piping the pump exhaust between will heat the oil somewhat. The lowest temperature at which oil atomizes best, is 160 to 170 degrees F.

The smoke stack should show a faint wisp of dark smoke which is an indication of economical combustion. White smoke or no smoke at all indicates imperfect combustion.

Soot may be blown out with a tight fitting blower, or with a blower arranged to induce air to assist in soot removal. The Robinson soot blower, shown in Figure No. 4 secures high velocity steam and cleans better than a ½" or ¾" steam pipe. Steam is blown only when the blower is pressed into the tube.

Wet steam causes soot to cake and adhere to the tubes, consequently brushing becomes necessary. Soot must be kept out of the tubes as a blanket of it makes firing difficult as well as increases fuel consumption.

When blowing flues, the furnace performance may be estimated by the amount of soot accumulating. More soot in some tubes than others indicates that a flame point enters them, which chills the flame and deposits soot, which can be prevented by a more careful distribution of air into the furnace and to the burner.

Ferrules are necessary in boiler retubing to make a water tight joint between tube and sheet without excessive rolling of the tube which thins the tube unnecessarily at the end when the bead may break off, requiring replacement of the tube. Ferrules and tubes carefully placed, beaded and rolled, last longer and ferrules prevent damage to flue sheets. Charcoal wrought iron sheet, or if this is not obtainable, soft mild sheet steel, cut into strips make the best ferrules, and should the tube hole be too large, a copper ferrule may be brazed to the tube. Back end of tubes must be beaded over, to comply with the code and good boiler work anyway calls for back end beading.

The Prosser expander, shown in Figure No. 4 expands the tube inside of the flue sheet as well as on the outside as shown and is useful in maintaining tubes water tight in the sheets.

Boilers are required to be tested when new tubes are put in and test

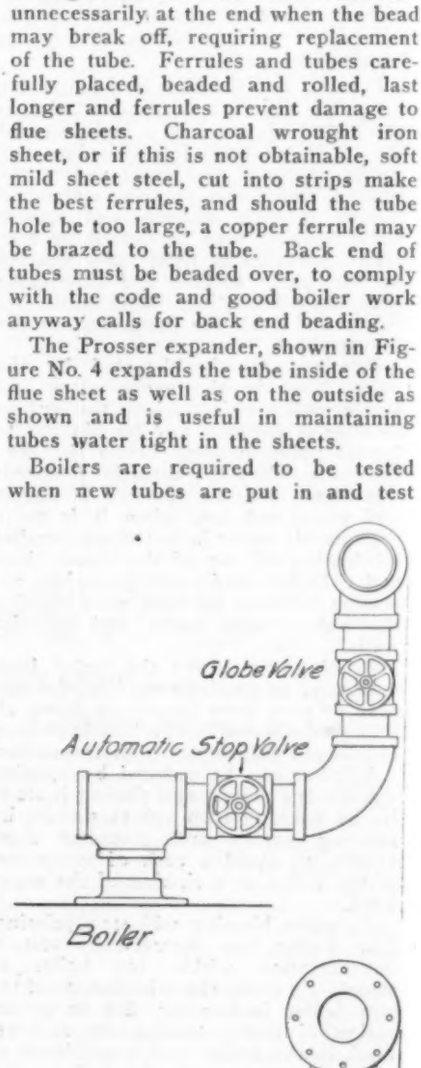

Fig. 6

pressure of cold water must be 1½ times working pressure.

In the event of a bursted flue, or a serious leak, and pipe or tools must be withdrawn from the hole, causing an emergency, the iron or wooden flue plug may be driven into the tube end, but not so tightly as to damage the sheet. A wooden plug six inches long will not burn because it is inside of the tube where fire cannot reach it, though the end will char.

Leaky flues may be stopped temporarily by pumping in some rye flour or cut up potatoes, or any other starchy substance, though a too liberal dosing sets up foaming.

A broken blow off cock may be plugged by driving in a wooden plug, split at one end, then driving a wedge in the split.

Leaks and troubles may result from rough handling of boilers when moving; the practice of dumping boilers off of a truck or wagon results in broken stay bolts and leaky staybolt ends.

As a matter of standardization, handholes and plates as well as gaskets might well be of the same size, so that new plates, crow feet and gaskets could be had from any supply company to fit any boiler, without sending in measurements every time such are needed.

Safety valves manufactured under the code are so marked, and any safety valve not built in accordance therewith is not admissible for use where the code is a statutory requirement. The requirement for safety valves is that the disc must lift instantly to maximum height when boiler pressure reaches the pressure at which the valve is set to blow. The blow down is from three to eight pounds pressure and some may be regulated as to maximum blow down range. The valve must also have a definite relieving capacity per hour corresponding to the boiler, consequently no smaller valve than furnished with the boiler should ever be used.

Insulation of boilers and steam pipes is one thing that is generally understood, but is not generally practiced. Where boilers must be moved every three or four weeks, though, when insulated, the boiler would steam better, furnish more dry steam and use less fuel.

To much stress cannot be laid upon skillful firing; and this includes boiler care. The difference in firemen is sometimes as much as $50.00 per day in fuel consumption and every fireman has full opportunity of showing that he has the ability to take care of his boilers, even though water and other conditions are not ideal, although the driller is held responsible for the rig performance.

New Wells to Test Area North of Luling

Luling, Texas, Sept. 9.—The United North and South Oil Company is drilling and making additional locations for wells in the section just north of the producing area of the Luling field, so as to widen the field where it crosses the San Marcos river in Guadalupe County.

Drilling on the second row of locations to the north on the Baker lease has recently begun and locations are being made to drill on the third row.

With the increased drilling in the northern section of the field, oil men are undecided as to the amount of territory which will be proven.

The Rycade test on the Maierhoffer farm, southwest of Seguin, is drilling at 3300 feet in the Glenrose formation and it is reported that the test will be drilled to 4000 feet if no production is found at a shallow depth. The Rydals test on the S. C. Lillard farm is down 2000 feet.

The Tiler No. 2, which was completed recently, is reported to be making 500 barrels of clean pipe line oil daily. The No. 2 is three locations further west than the No. 1, directly in line and less than one mile from the Prairie Lea.

Pitman and Billingsly have a derrick up on the Thomas tract near the Jones well on the Walhunda tract.

El Dorado, Ark., Sept. 1.—Activity in the Arkansas fields is now practically at a standstill. Fifteen new wells completed last week in the Smackover district yielded only 645 barrels of new production. Very few new locations are being made. Daily average production of the heavy oil wells in the Smackover district continues to decline, being now down to around 85,000 barrels per day. Other districts record only slight declines, as might be expected.

Tanker Shipments of Crude to Atlantic Domestic From Los Angeles Off Again

Los Angeles, Calif., Sept. 6.—The movement of crude oil from Los Angeles Harbor to all points showed a decrease in August when compared with previous month. Largest decline was in movement to domestic Atlantic coast ports.

The daily average movement of crude to Atlantic ports during July was 103,813 barrels, while the movement in August was only 77,744 barrels daily average. Many large tankers left Los Angeles during July and since it requires about six weeks for the round trip, the movement is likely to increase in September.

A study of the movement of gasoline out of Los Angeles Harbor the past eight months is interesting, in that it is found that a total of 2,346,969 barrels of gasoline moved in that period from Los Angeles to foreign ports on the Atlantic, the tankers having to make use of the Panama Canal. This is a monthly average movement of 293,371 barrels or 12,321,582 gallons. These figures do not include the movement from points about San Francisco, and considerable refined products are shipped monthly from that district.

Movement of gasoline from Los Angeles Harbor last month to all points was the greatest of any month this year, reaching a total of 719,823 barrels. Movement in July was 558,881 barrels. Previous high shipment was in April when 598,835 barrels moved to all points.

Accompanying tables give monthly movement of crude and gasoline.

Crude to All Points

Crude shipments to all points out of Los Angeles Harbor the past eight months by months in barrels was as follows:

	Month	Daily Average
January	8,154,570	263,050
February	5,057,989	174,413
March	6,059,235	195,460
April	5,353,524	178,450
May	5,746,934	185,385
June	4,608,980	153,632
July	5,267,657	169,924
August	5,040,229	162,588

Crude to Atlantic Domestic

Crude shipments to domestic points on Atlantic coast out of Los Angeles Harbor the past eight months by months in barrels was as follows:

	Month	Daily Average
January	5,752,811	185,574
February	3,022,042	104,208
March	3,814,270	123,041
April	3,454,727	115,157
May	3,319,153	107,069
June	2,905,318	96,844
July	3,218,197	103,813
August	2,410,059	77,744

Gasoline Movement

Movement of gasoline since first of year out of Los Angeles Harbor to points on Atlantic domestic coast, Atlantic foreign and Pacific foreign ports in barrels was as follows:

	Total	Atlantic Domestic	Pacific Foreign	Atlantic Foreign
January	457,471	213,135	17,897	226,439
February	332,258	25,668	16,529	290,061
March	411,475	195,718	.....	215,757
April	598,835	173,379	45,456	380,000
May	431,783	230,874	.....	200,909
June	146,673	72,308	.....	74,365
July	558,881	75,000	.....	483,881
August	719,823	225,710	18,556	475,557

Total movement by months, including above and that shipped to points on Pacific domestic was as follows: January, 573,429 barrels; February, 438,761; March, 523,808; April, 741,351; May, 508,814; June, 368,314; July, 919,734; August, 704,543.

CRUDE OIL PRICE QUOTATIONS FOR ALL FIELDS

Changes

September 6.—Effective at 7:00 this morning, the Joseph Seep Purchasing Agency posted a 10-cent reduction in the price of Corning crude.

Current Postings

EASTERN STATES

	Sept. 12 1924	Sept. 12 1923
New York Transit	$2.85	$3.00
Bradford (Pa.)	2.85	3.00
Other Pa. Grades	2.75	2.75
Cabel	1.45	1.50
Ragland	.90	.75
Corning	1.65	1.60
Somerset, medium	1.55	1.40
Somerset, light	1.70	1.55

CENTRAL STATES

Illinois	$1.62	$1.67
Indiana	1.63	1.68
North Lima	1.83	1.88
South Lima	1.83	1.88
Plymouth	1.00	1.05
Lodi	1.65	...
Princeton	1.62	1.67
Waterloo	1.10	1.15
Wooster	1.65	1.70

CALIFORNIA

(Crude oil prices at well.)

Los Angeles and Orange Counties

14 to 19.9 gravity	$1.00	$ .60
20 to 20.9 gravity	1.01	.61
21 to 21.9 gravity	1.02	.62
22 to 22.9 gravity	1.03	.65
23 to 23.9 gravity	1.05	.68
24 to 24.9 gravity	1.07	.71
25 to 25.9 gravity	1.10	.74
26 to 26.9 gravity	1.13	.77
27 to 27.9 gravity	1.16	.80
28 to 28.9 gravity	1.19	.83
29 to 29.9 gravity	1.22	.86
30 to 30.9 gravity	1.25	.89
31 to 31.9 gravity	1.28	.92
32 to 32.9 gravity	1.31	.95
33 to 33.9 gravity	1.34	.98
34 to 34.9 gravity	1.37	1.01
35 gravity and above	1.40	1.04
Fuel Oil	1.40	...

WESTERN KENTUCKY

Posted by Indian Refining Company for crude from Allen, Warren, Franklin, Daviess, Barren, Cumberland and Monroe Counties.

36 and above	1.40	...
33 to 35.9	1.30	...
32.9 and below	1.20	...

MID-CONTINENT

(Prairie Prices)

Below 30 grav.	$1.10	$ ...
30 to 32.9 grav.	1.25	...
33 and above	1.50	...

(Sinclair Prices)

Below 30 gravity	$1.10	
30-32.9	1.25	
33 gravity and above	1.50	

(Texas Company Prices)

	Sept. 12 1924	Sept. 12 1923
Below 30 gravity	1.10	
30 to 32.9	1.25	
33 and above	1.50	

(Magnolia Petroleum Co.)

Below 28 gravity	.90	...
28 to 30.9 grav.	1.00	...
31 to 32.9 grav.	1.10	...
33 and above	1.25	...
Corsicana, light	1.25	...
Corsicana, heavy (at wells)	.90	...
Mexia	1.25	...
Thrall	1.00	...

NORTH CENTRAL TEXAS

(Humble Oil & Refining Co.)

Corsicana, light (Powell)	1.35	1.00
Mexia	1.35	1.00
Currie	1.35	1.00
Thrall	1.00	...

RANGER

(Humble Oil & Ref. Co.)

30 and below	1.00
30 to 32.9	1.20
33 to 35.9	1.40
36 and above	1.60

WICHITA AND ARCHER COUNTIES (Texas)

(Humble Oil & Ref. Co.)

33 and above	$1.35

SOUTH TEXAS

Mirando (Texpata)	.80	.75
Mirando (Magnolia)	.75	...

SOMERSET

(Grayburg Pipe Line Company)

Under 28 gravity	$ .90
28 to 30.9 gravity	1.00
31 to 32.9 gravity	1.10
33 and above	1.25

GULF COAST

Grade "A"	1.35	...
Grade "B" at Blue Ridge, Hull and Pierce Junction	1.15	...

LULING

All gravities	.90	...

LOUISIANA-ARKANSAS

Caddo

38 gravity and above	$1.35	$...
28 to 37.9 gravity	1.25	...
32 to 34.9 gravity	1.15	...
Below 32 gravity	1.00	...
35 gravity and above	1.35	...

Homer

	Sept. 12 1924	Sept. 12 1923
33 to 34.9 gravity	1.25	...
31 to 32.9 gravity	1.15	...
Below 31 gravity	1.00	...

COTTON VALLEY

All grades	.80	...

Haynesville

33 gravity and above	1.25	...
Below 33 gravity	1.15	...

Bull Bayou

38 gravity and above	1.30	1.35
35 gravity and 37.9	1.15	1.25
32 to 34.9 gravity	1.00	1.20
De Soto crude	1.35	1.45
Crichton	1.15	1.10
Bellevue	1.25	.85
Jennings	1.35	1.25
Vinton	1.35	1.25
Edgerly crude	1.35	1.25

Smackover

	Texas Co.	Standard of La.
26 gravity and above	.95	.95
25 to 25.9 gravity	.80	.80
24 to 24.9 gravity	.70	.70
Below 24.0 gravity	.60	.60

El Dorado

33 gravity and above	1.35	...
Below 33 gravity	1.25	...
East Field (Calion)	.60	...

Stephens District

(Posted by Atlantic Oil Producing Company)

28 gravity and above 60 degrees	1.00	...
26 to 27.9 gravity at 60 degrees	.95	...
23 to 25.9 gravity at 60 degrees	.80	...
Below 23 gravity at 60 degrees	.60	...

WYOMING–MONTANA

Wyoming

Elk Basin	1.45	1.70
Grass Creek	1.45	1.70
Rock Creek	1.20	1.35
Lance Creek	1.40	1.70
Mule Creek	.60	.95
Big Muddy	1.00	1.25
Salt Creek	1.10	1.35
Osage	1.40	1.80
Hamilton Dome	1.10	1.35
Pilot Butte	.75	1.10
Lander	.45	1.00
Torchlight-Greybull	1.40	1.80

Montana

Sunburst	.90	.80
Cat Creek	1.45	1.85

CANADIAN CRUDE

Oil Springs	2.55	2.45
Petrolia	2.48	2.38

*Plus 2½ cents bounty.

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SINCLAIR OILS

Say you saw it in The Oil Weekly

Using steam pump to unload fuel.

Uses Steam Pump To Unload Fuel Truck

An operator in the Mounds, Oklahoma, district has found a way to unload a tank wagon of fuel oil in seven minutes. Having a small double action pump not in use on his lease, he rigged it up with a small steam line to the boiler. Then with a couple of joints of old pipe and two ells, he completed the apparatus as shown in the accompanying illustration. On wildcat wells where it is necessary to haul the fuel oil and unload it into the fuel tanks, a large amount of time can be saved by using this method. Almost every contractor has a small pump not in use —why not make it an active asset? Simply drop the short end of pipe rigging into the tank and turn on the steam—the little pump will save 20 minutes each time the tank wagon is unloaded.

Salvaging Material From Many Depleted Oil Wells

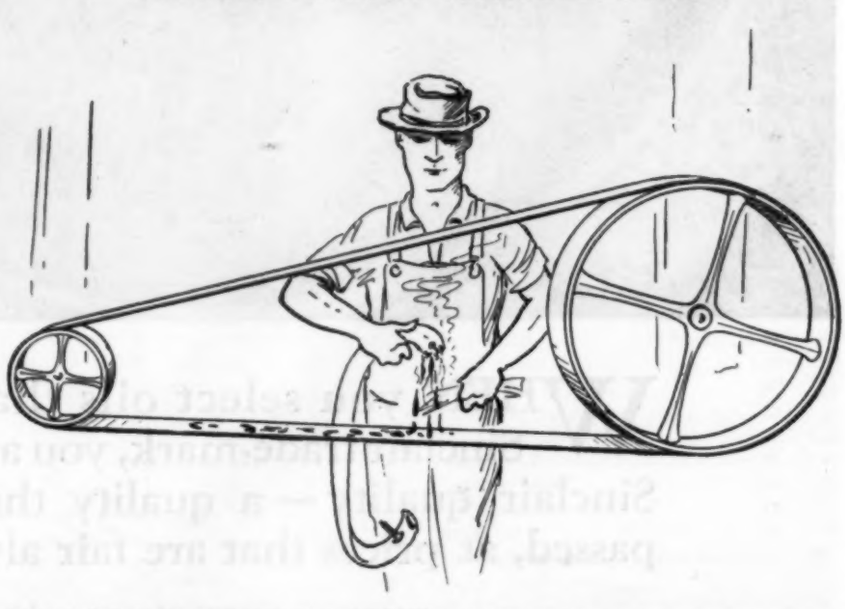
Breckenridge, Texas, Sept. 8.—The Texas Company is reported to be making preparations to pull casing and abandon approximately 50 depleted oil wells on the J. W. Parks and other nearby leases in the south half of Stephens County, and the work involved in salvaging the usable casing and materials in these wells is to begin at once. Many of these wells have been off production for months, and were given up only after being shot and treated to a series of cleanout jobs. When this group of abandoned producers have been disposed of, it is understood that The Texas Company plans to comb its leases in Eastland and other parts of Stephens Counties of all depleted wells.

The average depth of these abandoned producers is 3300 feet, and they contain strings of casing ranging from 15½-inch to the smallest size, as well as complete outfits of tubing, rods and pumping equipment. It is understood that one of the major supply companies has entered into an agreement with The Texas Company to assist in the disposal of all usable casing, engines, rods and miscellaneous equipment, while all the tubing will be diverted to The Texas Pipe Line Company for use in building gathering lines and also for water and gas lines. It is expected that a large quantity of the damaged casing and pipe will be bought by the natural gasoline plants operating in Central West Texas fields for use on low pressure gas lines, as the joints are usually welded on these lines and flaws in the pipe can be removed with the use of the welder's torch.

Bureau Studies Steel Used In Drilling Bits

A study of the efficiency of drill bits and steel parts in general as affected by oil field conditions has been undertaken by the Department of the Interior. A metallurgist attached to the petroleum experiment station of the Bureau of Mines, Bartlesville, Oklahoma, has been placed in the field to conduct the investigation. A study of time lost due to wear and breakage of steel components is also to be made. Figures obtained by the Bureau of Mines from a company which has conducted a complete time-lost study of oil-well drilling in six of its wells in Oklahoma show that in rotary drilling only 31.2 to 36.54 per cent of the total time to bring in a well was spent in actual drilling and that 21.5 to 29.3 per cent of the total time, amounting in one instance to 250 hours, was spent in pulling out and running in to change bits. In cable tool drilling 37.4 to 54.13 per cent of the total time was spent in actually drilling and only 1.49 to 2.94 per cent was spent in changing dull bits. It is thought that much time spent in changing bits on rotary rigs may be saved by increasing the footage obtained per bit and that the speed of drilling may be increased in both methods of drilling. The figures given here are from the logs of only three rotary and three cable tool drilling wells, but it is hoped that with the aid of operators and contractors more extensive data from this and other fields can be obtained which will be of aid to well drillers generally. At present work is under way in the Tonkawa and Burbank oil fields, but the work will not be confined to this one locality.

MAKING FRICTION WHEN BELTS SLIP



Burning old automobile tubes on the running side of field belts for re-frictioning purposes is a scheme used by Nicolle and Wife Petroleum Prospectors, who operate in the Corsicana, Texas, area. All old tubes are saved by the field men working for the company and whenever a belt begins to slip a coating of rubber is melted on the working surface as shown in the illustration. Mr. Nicolle also says that old casings are not half bad fuel for lighting boilers.

Here are some new field wrinkles. They show how these field men are developing simple methods for reducing operating costs. You probably have some schemes equally as good for your lease. Why not send them in? And remember The OIL WEEKLY will pay you not less than $5.00--more if the idea is worth it—for each new wrinkle published.

History of Pipe Has Valuable Sidelights

Development of present day field casing is result of many years research and practice

By F. G. D. Muller
Houston, Texas

NO MATTER how far we look back into the history of the drilling industry, we find that the tube has always played a prominent role in the practice of drilling wells.

Discoveries in the old pyramids and temples of Gizeh, Egypt, disclosed that 6000 years ago the old Egyptians used bronze tubes with inserted diamonds for drilling of holes in hard stone.

Plinius reports the use of wooden pipe for water lines which was made by boring out pine, red fir and alder trees.

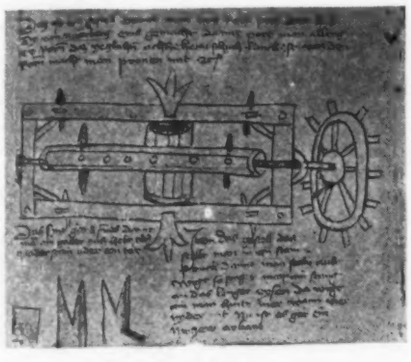


Fig. 1.

As far back as 50 years B. C. lead pipe and earthen pipe was used by the Romans for water lines.

The first boring mill for making well casing and water lines was invented in 1430 A. D. and is shown in Fig. 1. According to the inventor this machine was capable of boring out logs of 18 foot length at a rate of fifteen per day. The inventor also claimed that wooden pipe made with this machine could be used as pump-cylinders or working barrels.

Many inventions of boring mills were recorded during the Middle Ages, both for the manufacture of wooden pipe and for cast iron guns. Some of these mills were even driven by water power. Records are on hand, which show that in 1405 A. D. the drilling of water wells was a well known art in Central European countries.

The development of drilling in China is said to be also very old. Very primitive methods were still used when first discovered.

A. Kircher in his work, "China monumentalis illustrata," published in Amsterdam, A. D. 1667, is one of the first to mention the burning gas wells in the Province of Schan-se in China.

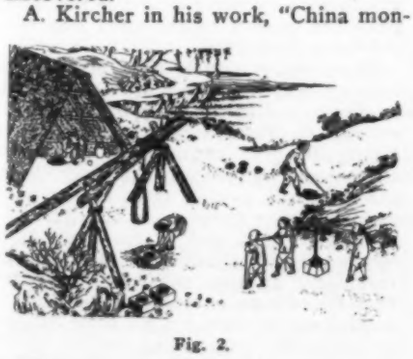


Fig. 2.

A French missionary, M. Louis Coldre, who lived in China in the 19th century, gives an interesting description of some 2000 brine wells that were drilled in the Se-chuen Province in the course of hundreds of years.

These wells were brought down by man and animal power.

First a shaft was dug by hand to a depth of about 90 feet, where a hard formation was encountered. The next move was to set a string of surface casing which consisted of square pieces of stone with a round hole in the center (see Fig. 2). These pieces of stone were put in the well from the bottom upwards. After the surface casing was set a cable tool outfit was rigged up over the well for deeper drilling, which is shown in Fig. 3. Power was furnished by coolies jumping upon the end of a springboard. The other end of this springboard or walkingbeam, which was supported in the middle, carried the drilling tools. The continuous on and off jumping by the coolies would cause the tools to move up and down in the hole, which was thereby slowly but surely drilled deeper. Occasionally cuttings had to be removed from the well, which was accomplished by means of a bamboo sand pump shown in the illustration. The sand line ran over the top of the derrick then under a hold down pulley and onto the bull wheel. The bull wheel is shown in the illustration under the shed. This wheel, as the name implies, was turned by one or more bulls, walking in a circle.

After the drilling tools had reached the brine producing stratum, bamboo casing (see Fig. 4), covered with canvas and rosin, was put into the hole to prevent it from caving in. The brine usually had to be bailed out of the well, which was done with a bailer running on the bull wheel. Instead of dumping the fluid into a ditch near the ground level, the bailer was usually emptied near the top of a derrick like structure and from there the brine was led through a sloping bamboo pipe line to the evaporating pans which were located in the center of the field.

In many instances natural gas was found in the same locality as the brine wells and this gas, too, was piped through bamboo lines to the furnaces under the evaporating pans, where it was burned and the heat used to evaporate the water out of the brine, leaving the salt. The time it took to bring down such a brine well did not seem to be an objection.

Fig. 5 shows the section of a well which was drilled in 1751 A. D. in Fort Saint Francois, Flanders. In this well wooden pipe was used, reinforced with wrought iron rings. In this well, like with cable tool drilling, the casing was made to follow up the drilling tools. Rams were used for driving the casing down and much trouble was experienced in bringing this wooden casing through heaving formations.

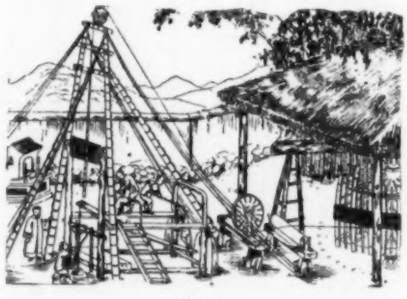


Fig. 3.

Progress in the art of drilling was naturally very slow as long as only man or animal power was available and it was not until the steam engine was developed, that further improvements in the art of well drilling took place. In this country this development began in 1859 when Col. Drake started drilling a well for oil near Titusville, Pa. In this well cast iron pipe was used for casing. Fig. 6 shows a section of this pipe and is compared with a section of modern oil well casing. During the 65 years that have passed there has been a remarkable development not only in the oil industry but in all allied industries. Producers kept on demanding stronger and better pipe. This is no small wonder when one stops to think,

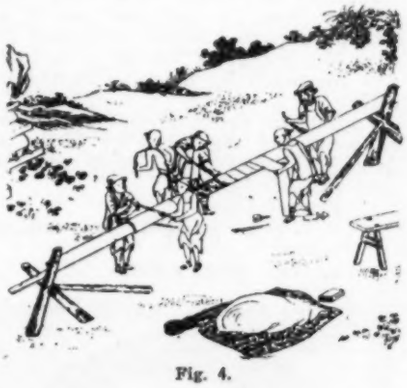


Fig. 4.

that all the way from $25,000 to $100,000 is involved in bringing down a deep well.

The race between the consumers and producers of oil country tubular goods is very similar to that of the projectile and armor plate manufacturers.

As a resut of this race between the consumer and producer of oil country tubular goods for drilling purposes there has been a remarkable development in this line and it is a far cry from the hollow tree or bamboo casing to the modern lapwelded or seamless tube. Modern casing has to withstand

Fig. 5.

the strain while being pulled from a hole in which it is tightly frozen. It also has to withstand damage from boulders, driving, accidental dropping, heavy flows of oil and other severe tests. It must be ductile enough to follow curved courses which are bound to exist in a drilled hole and at the same time strong enough to support its own weight. In the case of drill pipe it must have enough torsional resistance to prevent twisting off and strong enough to resist such forces as are set up when spudding.

Not only demanded the consumers stronger tubing and casing, but at the same time they wanted to decrease the bulk and the weight. How important a place the oil industry takes in the production of tubular equipment, may be seen from the fact that out of a total production 2,000,000 gross tons of pipe, 45 per cent or 900,000 gross tons was consumed by the oil industry in 1921.

To date no cast iron pipe is used in oil wells and the following kinds of wrought iron and steel pipe are now used exclusively:

1. Riveted pipe.
   a. With straight longitudinal seams.
   b. With spiral seams.
2. Welded pipe.
   a. Butt welded pipe.
   b. Lapwelded pipe.
   c. Spiral welded pipe.
   d. Hammerwelded pipe.
3. Seamless pipe.
   a. Rolled of solid round billets.
   b. Drawn from thick circular plates.
   c. Punched and drawn from solid square billets.

Riveted pipe with straight longitudinal seams is sometimes used for surface casing or conductor pipe and is especially in vogue with the cable tool system, where it is desirable to start with a large size hole.

Spiral riveted pipe is mostly used for large size water or gas lines and for penstocks delivering water to hydraulic turbines. The class of pipe mentioned under 2 is now mostly being used in the oil country.

It was not until 1825 that the first welded pipe was made. Butt welded pipe is usually made in sizes not larger than 3 inches. Lapwelded pipe is made in practically all sizes from one-eighth inch to 24 inches. Diagrams illustrating the difference between Butt welding and Lap welding are shown in Fig. 7.

Butt welded pipe is made of iron or steel strips, known as skelp, and of such a width and thickness such as will give a pipe of the desired diameter and gauge. These strips are being shaped at one end so as to form a point where the tongs can take hold and are heated up in a furnace to a welding heat. Directly in front of the furnace is the welding die, shown in Fig. 8, through which the hot skelp is drawn and welded into a pipe. On account of the nature of the weld, butt welded pipe is not very strong and it should only be used where moderate pressures prevail.

With lapwelded pipe a much stronger weld is obtained. The skelp for this kind of pipe is made similar to that of butt welded pipe except that the edges are beveled off or scarfed. This skelp is likewise heated and drawn through a bell shape die, which curves it in such a manner, that one edge considerably overlaps the other. For larger size pipes the skelp is bent in bending rolls. After the skelp is bent into shape, it is reheated to a welding temperature and is then run through the welding rolls which are located close to the furnace. The tube passes between the two grooved welding rolls with the overlapped edge turned upwards. Between the rolls, inside of the pipe is a bullet shape ball fastened to the end of a long rod. See Fig. 9. The tube is forced between these rolls and over the mandrel and the overlapped edges are firmly pressed together and welded. From the welding rolls the tube while still hot is passed through the sizing rolls where it is given the desired dimensions and where any irregularities are corrected. The tube is then cooled on the cooling table and after passing through the straightening rolls it is cut to length, threaded and provided with couplings.

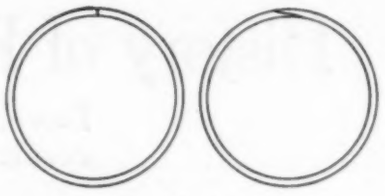


Fig. 7.

Another method of welding pipe, which is claimed to result in a stronger pipe is that made according to the Ehrhard process. This process is so far as the writer knows not being used in this country, but quite extensively by European pipe manufacturers. A diagram of this pipe is shown in Fig. 10. This pipe is made of narrow strips of plate which is wound up like a screw. The seam which has the shape of a screw thread, is welded by means of a water gas flame while the strips are being wound into the shape of a tube and are then hammered to insure a good homogeneous weld. This kind of pipe can be made in pieces of considerable length, by welding a number of strips together, which is usually done electrically.

Hammerwelded pipe as mentioned under 2 sub d. as made in this country has a straight longitudinal weld. The welding is done inch by inch by means of a water gas burner. The weld, as the name implies, is hammered while still hot, insuring a homogeneous joint. This process is applied to pipe of 24 inches in diameter and over. The kind of pipe thus made is used for large gas and water lines and also for absorption towers for gasoline plants.

The more exacting demand of the oil industry required tubes without seams.

What seems to have been the first attempt to make seamless pipe appears in 1837 under the English patent of Hanson. A thick short cylinder of steel was raised to a high temperature and placed in a matrix and then by means of a hydraulic ram, the metal squeezed through a small opening and around a punch, a seamless pipe being the result. Much headway in the manufacture of seamless pipe was not made until the quality of the steel was considerably improved.

The most generally used process for making seamless tubes was accidentally discovered in the shop of the Mannesmann Brothers, Germany. They were trying to give round bars a perfect shape and polish by passing them through rolls which were set at such an angle that they made the bar spin around its axis and at the same time moving it longitudinally through the machine. It was subsequently noted that there was a tendency to form a small hole surrounded by little cracks, through the longitudinal center of the bar. Upon this accidental discovery is

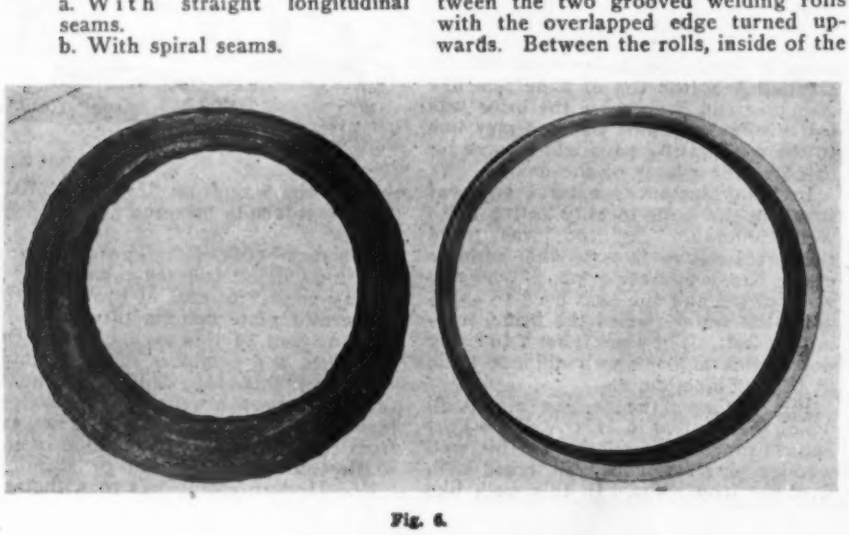


Fig. 6.

based the present process of taking a hot round bar or billet, spinning it between two rolls and forcing its weakened center over a sharp nosed mandrel.

Seamless tubes are now made in this country and Europe that have a much greater strength than lapwelded pipe. Usually for drilling purposes a high carbon steel is used containing from .40 per cent to .50 per cent carbon. The general process of making seamless tubes as practised to date in this country is as follows:

A square steel billet is rolled down to a round bar from 3 inches to 8 inches in diameter and from 3 feet to 5 feet long, the size and length depending upon the dimensions of the tube. The round bar is placed in a centering machine (See Fig. 11) where an indentation is made at one end of about 1 inch deep. This is the starting point for the piercing mandrel. After this round bar is centered it is heated again until it is semi-plastic. In this condition it is shoved into the piercing mill, where the white hot bar is grabbed by the revolving rolls, which give it a spinning motion and at the same time draw it slowly over the pointed mandrel. When leaving the piercing mill (See Fig. 12) the round bar has been transformed into a thick walled, rough looking seamless tube. Fig. 13 shows a diagram of the piercing operation. While still at a suitable working temperature the tube is passed from the piercing mill to the rolling mill, where by means of a set of rolls (having a circular groove) and a mandrel, the outside diameter and the wall thickness are reduced. The tubes are still hot when they leave the rolling mill for the reeling machine, where the pipe is finished to the required dimensions. Fig. 14 shows the pipe entering the reeling machine and Fig. 15 shows a diagram of the reeling operation.

Casing and tubing for oil wells is usually finished in this manner and are called "hot finished" tubes and this term is used to distinguish this product from hot rolled tubes which are later "cold drawn" to smaller sizes.

In the case of very large seamless tubes the process of manufacture is materially different from that just described. A thick circular plate is cupped under a hydraulic press and by drawing this cup through a series of dies of decreasing diameter the plate is gradually changed into a long tube closed at one end. Since these tubes are not used very extensively in the oil

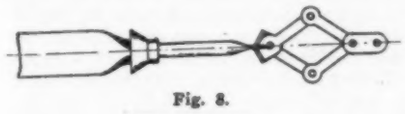


Fig. 8.

business, except for high pressure starting air tanks or oxygen cylinders a further discussion of this process can be omitted.

Another way of making seamless pipe, which is still in vogue in some mills in Central Europe and known as the Ehrhard seamless process is as follows:

A square steel billet is placed in a round matrix as shown in Fig. 16. A heavy cap is then placed on top of the matrix after the hot billet has been inserted. A ram, running through an opening in the center of the cap, is then pressed into the plastic mass of metal which recedes into the vacant space in the matrix. A cup shape cylindrical forging is the result of this operation. While still very hot, this hollow foging is placed on another mandrel and drawn through a series of dies of decreasing diameter as shown in Fig. 17. The bottom is pushed out of the cup by the last die. This process is especially adapted for tubes of smaller diameter and length, such as boiler tubes, working barrels, etc.

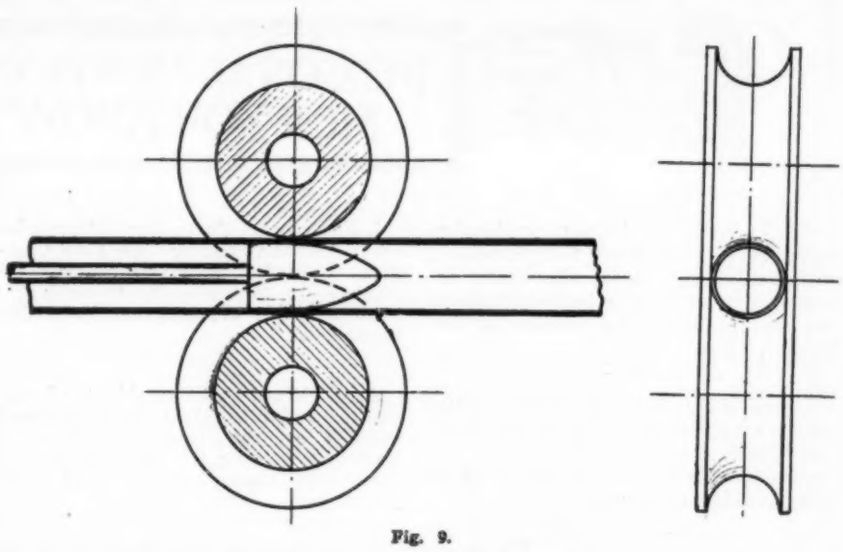


Fig. 9.

The following table shows the average chemical and physical properties of lapwelded and seamless steel pipe:

Chemical Analysis

	Bessemer steel for Lapwelded pipe	Open hearth steel for Seamless pipe
Carbon	.070%	.450%
Manganese	.300%	.500%
Sulphur	.045%	.025%
Phosphorus	.100%	.030%

Physical Properties

Tensile strength	58,000 lbs.	75,000 lbs.
Elastic limit	36,000 lbs.	45,000 lbs.
Elongation in 8"	22%	18%
Elongation in 2"		32%
Reduction in area	55%	50%

In comparing the ultimate strength of lapwelded and seamless steel pipe we notice that the latter is about 30 per cent stronger than the former. This increase in tensile strength is very desirable when we consider the stress under the threads, due to the weight of a long string of casing. Better and stronger casing is an absolute necessity today where wells are drilled to over a mile in depth. Recently a string of 8¼-inch casing was set in the Dominguez field at a depth of 5225 feet. This is believed to be the longest string of casing of that size on record. Taking a steel bar of that length and of uniform cross-sectional area, then due to its own weight a tensile stress of 17,556 pounds per square inch is set up at the point where it is suspended.

In the case of a string of casing the tensile stress in the metal under the threads will run much higher, due to the amount of metal that has been cut away for the threads, which leaves the area of the metal under the threads considerably smaller than the cross sectional area of the metal in the body of the pipe. For this reason long strings of casing are often floated into the hole by placing a back pressure valve at the bottom or somewhere in the middle of the string.

In making pulling tests on casing joints it developed that in many cases the casing broke at a unit stress under the threads, considerable less than the ultimate strength of the metal of which the pipe was made. This tends to show that the load is not evenly distributed over this area, but must be more or less concentrated near the root, where

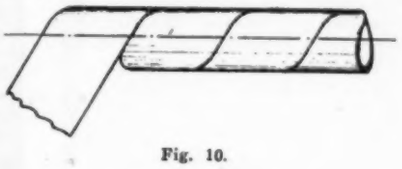


Fig. 10.

the metal will start to tear first. It also shows the harmful effect of the V notch shape of the thread. In most cases failure of common casing usually occurs by jumping at the coupling. This is caused by the wedging action of the threads which causes the treaded end of the casing to contract when subjected to a severe tensile load. The joint mostly parts without perceptible injury to the threads and can usually be made up again. In recent tests it has been found that seamless pipe will resist jumping to a point 50 per cent higher than that of lapwelded pipe, showing the great advantage when using the modern seamless steel product in wells of greater depth.

In drill pipe, where there is no objection against decreasing the inside diameter of the pipe by upsetting, it has been found that in order to obtain the same strength in the joint as in the body of the pipe, the thickness of the upset at the end of the pipe should be 2½ times the wall thickness of the pipe.

Another factor of vital importance is the resistance of casing against collapsing. The most authentic information on hand on this subject is that published by Prof. R. T. Stewart. The

(Continued on page 57.)

PERSONAL MENTION-MEN YOU KNOW

B. S. SoRelle, district production manager for the Pure Oil Company, with headquarters at Mexia, Texas, departed last week on a business trip to the headquarters of the company at Columbus, Ohio.

James H. Gardner, president of the Gardner Petroleum Company and head of the American Association of Petroleum Geologists, has returned to Tulsa from Washington, D. C.

F. V. Faulkner, vice-president and production manager for the Magnolia Petroleum Company, is expected to return to his headquarters at Dallas within a few weeks from a trip around the world. Faulkner departed early this year, and visited a number of the oil fields in the Old World.

W. E. Morris, special representative for the Pure Oil Company, who has been engaged in inspecting some producing properties in the North Texas district oil fields in recent weeks, is visiting with relatives at Tulsa, while recovering from a spell of sickness.

Charles R. Brown, head of the leasing and scouting department of the Gulf Production Company in the North and Central West Texas district, with headquarters at Fort Worth, visited the Big Lake oil field in Reagan County section of West Texas last week.

R. T. "GATX" Musser, who has represented the General American Tank Car Corporation in Texas and Louisiana, with headquarters at Dallas for more than five years, has been transferred to San Francisco to take charge of sales in the Pacific Coast region. Musser enjoys a wide acquaintance in Mid-Continent oil circles, and was tendered a farewell party prior to his departure last Friday.

R. S. McKeever, general manager of sales of the International Supply Company, has returned to company headquarters in Tulsa after a field trip through Ellis and Russell counties in Kansas.

J. F. Blake of Tulsa, general superintendent of the Sinclair Pipe Line Company, headed a party of Sinclair officials on a trip recently through the Cromwell and Wetumka areas in Oklahoma.

A. E. Watts, vice-president of Sinclair Consolidated Oil Corporation, and receiver for the Teapot Dome naval lease in Wyoming, has returned to New York, after a visit in Casper and other points.

JAMES A. MOFFETT, Jr.

of New York, who has been named a Vice President of the Standard Oil Company (New Jersey).

E. M. Closuit, chief geologist for the Gulf Production Company in the North Texas district, returned to headquarters at Fort Worth last week from a vacation trip to Florida and Havana, Cuba. While in the latter place Closuit ordered a box of choice Havana smokes to bring back to his friends, but the cigar dealer substituted an inferior brand while wrapping the box so said friends are the losers.

Captain W. C. Tyrrell, vice-president of the Pulaski Oil Company of Tulsa, and well-known in Mid-Continent oil circles, died at his home in Beaumont, Texas, September 8.

M. K. Crews has become associated with the Joseph T. Ryerson Sons Company in the Tulsa office, which is in charge of W. T. Branson in the Atlas Life building.

L. S. Allen of Tulsa, of the B. & A. Specialty Company, has just completed a trip through southern Oklahoma in the interest of the spiral rotary drill collar made by the Titusville Forge Company of Titusville, Pa.

G. B. Watson, general field superintendent for the Texas Pacific Coal and Oil Company, with headquarters at Thurber, Texas, is spending his vacation in Canada and in the Great Lakes region.

M. J. McLaughlin, assistant manager production department of the Magnolia Petroleum Company with headquarters at Dallas, visited the Big Lake oil field in Reagan County section of West Texas last week.

James H. Gardner, president of The American Association of Petroleum Geologists, has returned to Tulsa from Washington, D. C., where he was in conference with the National Research Council regarding certain research problems in which the association is interested. A meeting of the Research Committee of the association will be held on October 6 and 7 in Tulsa during the Petroleum Exposition, in furtherance of co-operation on questions of interest in petroleum geology.

E. F. Randolph, secretary of the Marine Oil Company, has returned to company offices in Denver, after a trip to Casper and other points in Wyoming.

Cheyenne, Wyo., Sept. 8.—With the government's suit for cancellation of the Teapot Dome naval oil lease scheduled to come up October 7 in federal district court here, there is a possibility that Judge T. Blake Kennedy will not now appoint a receiver to fill the vacancy caused by the resignation of Admiral Joseph Strauss.

Judge Kennedy has pointed out that representatives of the United States bureau of mines were on the ground at Teapot Dome and were looking after the government's interests.

FIELD NOTES AND PRODUCTION STATISTICS

Tonkawa Field Boosts Oklahoma to New High

Cromwell pool shows slump due to few completions and natural decline of wells

By W. Lee Sloan

Tulsa, Okla., Sept. 9.—Production in the fields of Oklahoma for the past week again show an increase, bringing the daily average for the week up to approximately 545,000 barrels daily. The increase is charged up for or against Tonkawa where the total reached some 15,000 barrels above the total for the week previous. A great part of this production was needed, however, to offset the nine thousand barrel loss in the Cromwell field of Seminole county.

The large decrease in the Cromwell pool came as a result of few completions in that field and the fast decline which is typical of Dutcher sand pools in Oklahoma did not have sufficient flush production to par the total of last week. Owing to the fact that few completions are expected during the next two weeks in the Cromwell pool, the decline during that time is likely to be rapid. Competent operators do not think that the water situation in the wells at Cromwell is having any marked effect upon the production, as the wells cutting water do not have any greater volume of it than other wells in kindred sand of the different fields of the state.

The older wells in the deep sand at Tonkawa are showing some decline as time passes but the flush production has been so much that it is not noticeable in the total output from the deep sand. The 46 wells not drilling to this sand will inevitably run the total for the Tonkawa field much higher than the present level. The Comar Oil Company report nine wells rigging up in section 35-25-1 west, two rigs in section 2-24-1 west, and two rigging in section 3-24-1 west, all with the deep sand as their objective. All other companies holding leases in this area are also sending out orders for new rigs to be installed.

The Burbank field may be staging a come-back as evidenced by the completion of the Carter Oil Company on the northwest quarter of section 11-27-5, a 160-acre tract purchased at the June 30th Osage sale at Pawhuska. This is the Carter Company's No. 1 well on this tract and it found the Burbank sand at 2905 feet. The well was drilling at 2941 feet from the last report and was making approximately 40 barrels per hour at that depth. This lease cost the Carter Company $310,000 at the sale. To the south of this lease is the Phillips Petroleum Company's 160-acre tract which brought $1,765,000 at the May sale of this year.

The activity during the past week in the Burbank field exceeds the work of previous weeks, in fact, it is the biggest seven-day period the field has seen in two months. There were 190 operations going on in the field, of which 26 were new rigs reported. The Phillips Petroleum Company have two wells nearing the Burbank pay and a number of others drilling below the 2350 foot level as likewise has the Carter Oil Company with several wells due to hit the sand in the next two weeks. These new wells will obviously offset the decline in daily production which the field has been reporting for some time. It is reported that the Cosden Oil & Gas Company are selling all of their equipment in the Burbank field and will contract all future wells.

Latest Daily Average Performance of Deep Sand Wells at Tonkawa

Wentz Oil Co., McKee 18	4,806 bbls.
McKee 45	10,126 bbls.
T. B. Slick, Endicott 1-E	2,290 bbls.
Endicott 5-E	2,420 bbls.
Blackwell O. & G. Co., McDaniels 1-C	5,191 bbls.
Gypsy Oil Co., Shawver 81	2,800 bbls.
Shawver 83	5,400 bbls.
Shawver 84	3,335 bbls.
Shawver 85	4,637 bbls.
Comar Oil Co., E. Endicott 1-W	3,857 bbls.
E. Endicott 5-W	3,820 bbls.
E. Endicott 6-W	4,900 bbls.
E. Endicott 7-W	5,656 bbls.
Beverlin 1-W	5,283 bbls.
L. Endicott 1-W	4,403 bbls.
Pettit 1	1,952 bbls.
Pennock Oil Co., Endicott 1-D	1,900 bbls.
Endicott 4-D	1,800 bbls.
Endicott 5-D	4,200 bbls.
Endicott 7-D	2,400 bbls.
Total for 20 wells	81,176 bbls.

Chandler and Kelly No. 1 Hill in the northeast corner of the southwest quarter of section 1-21-5, Pawnee County, which opened up a new Wilcox sand producing area a week ago from a depth of 3379 feet is now reported making 250 barrels of oil per day and 125 barrels of salt water. The oil is of 46 gravity. Every day, the well makes from 125 to 140 barrels of water, but when it flows at night it does not flow any water. It is thought that the water was found in a shale break above the top of the oil sand. The 250 barrels flow tank and a 250 barrel stock tank is now full of oil and two additional tanks are being erected of like capacity.

Pipe line runs from the Cromwell field have declined with the production and reports show the movement of 70,771 barrels per day average compared with 79,028 barrels for last week. Amount of oil being run to storage has increased now that the larger companies have partially completed their tank building campaign and 4,622 barrels of oil is being run into tanks each day. Prairie Pipe Line Company still holds the lead in taking Cromwell oil with a daily average run of 14,187 barrels per day, with the Magnolia second with 13,344 barrels. Sinclair is running 8,953 barrels, Gulf Pipe Line Company 7,866 barrels, with Cosden, Oklahoma Pipe Line Company, Ozark Pipe Line Company, and Producers & Refiners taking about an equal amount each. A total of 576 barrels is being run to the loading racks.

The Gardner Petroleum Company and Carter Oil Company No. 2 in the southwest of the southeast of the southwest of section 9-10-8 in the Cromwell pool is making 105 barrels per hour while drilling at 3430 feet. Sand was topped at 3403 feet. The Central National well in 4-10-8 is making approximately 3000 barrels per day. Hoffer Oil Company No. 4 Stidham has been plugged back to 3560 feet and is now reporting swabbing 69 barrels, and Gilliland and Livingston No. 3 in the southeast corner of the southwest of the northeast of section 16-10-8 is swabbing 28 barrels after plugging back from 3594 to 3588 feet.

The Atlantic Oil Producing Company No. 2 Dolman in the northeast of the southwest of section 25-2s-3w in the Graham pool of Carter county is reported to be flowing upwards of 500 barrels per day from broken sands found from 2608 feet to a total depth of 2973 feet. This well was supposed to be on the west edge of the producing area and was generally expected to be a small well, but its performance has upset the geological advice by being a good producer.

In the Pawhuska district of Osage county, the Mid-Kansas Oil and Gas Company No. 1 in the southwest quarter of section 21-25-8, started off by producing 320 barrels per hour after drilling six inches deeper into the pay to 2691 feet. The flow is pinched in at present until the tools can be removed from the hole and a correct gauge can be made.

In Seminole county, the Roxana Petroleum Company have completed the rebuilding of a derrick over their No. 1 Buckner, which has so often been referred to as No. 1 Culler by the daily press, and the well is now making approximately 412 barrels per day. This is the wildcat completion of the Roxana Company in section 12-8-8 and opens up what is thought to be a good producing area. The Roxana Company controls about 600 acres near this well, however, the well is situated on the east edge of the tract and other wells are expected to offset soon.

Average Daily Production for all U. S. Fields

Oklahoma

	Week Past	Week Prev.
Tonkawa	100,090	85,615
Burbank	73,025	73,975
Bristow	55,000	54,865
Osage (outside Burbank)	53,200	53,820
Cromwell	51,425	60,350
Cushing	26,385	26,420
Okmulgee	26,150	26,000
Stroud	17,960	19,515
Hewitt	19,745	19,795
Healdton	13,500	13,525
Gilcrease-Papoose	11,635	11,635
Duncan and Walters	9,385	9,380
Wewoka	7,025	7,045
Other fields	79,420	78,820
Totals	543,945	540,760

Kansas

Greenwood	21,320	21,290
Eldorado	16,980	17,000
Elbing and Peabody	8,380	8,395
Rainbow Bend	7,940	8 000
Fox-Bush	5,180	5,175
Augusta and Douglas	3,290	3,300
Blankenship	2,965	2,970
Florence and Covert	2,520	2,525
Other fields	17,800	16,970
Totals	86,375	85,625

Mountain States

WYOMING-COLORADO

Salt Creek	84,700	88,975
Teapot	2,790	2,270
Big Muddy	3,870	3,830
Grass Creek	3,250	3,200
Elk Basin	1,135	1,945
Rock River	3,250	3,300
Lance Creek	2,155	1,990
Poison Spider	660	745
Lost Soldier	4 630	5,390
Craig, Colorado	1,825	2,175
Other fields	3,525	3,700
Totals	111,850	117,620

MONTANA

Cat Creek	3,875	3,920
Kevin-Sunburst	3,710	3,825
Miscellaneous	95	105
Totals	7,680	7,850

California

Los Angeles, Calif., Sept. 6.—The daily average production of the California fields the past week, compared with the previous week, with number of producing wells in several Los Angeles Basin fields, was about as follows:

	Last Week	No. Prod. Wells	Prev. Week
Long Beach	149,000	486	153,000
Santa Fe Springs	61,000	369	58,500
Huntington Beach	42,000	278	42,000
Torrance	56,500	420	57,500
Dominguez	30,000	19	30,000
Rosecrans	1,775	3	1,675
Others	274,725		271,325
Totals	615,000		614 000

Louisiana

	Past Week	Prev. Week
Haynesville	17,875	17,615
Caddo Light	10,260	10,000
Caddo Heavy	2,015	1,995
Homer	7,495	7,840
Bellevue	4,925	4,625
Vinton	5,700	5,710
Bull Bayou	4 700	4,750
Cotton Valley	4,250	7,050
Lake Charles	3,000	....
Elm Grove	770	825
Evangeline	900	660
Edgerly	460	500
Anse La Butte	20	20
Totals	62,370	61,590

Arkansas

Smackover Heavy	81,110	85,150
Smackover Light	37,985	37,050
El Dorado	12,500	12,030
Stephens	2,380	2,320
Irma	1,390	1,400
Totals	135,365	137,950

Texas

NORTH-CENTRAL

	Past Week	Prev. Week
Corsicana-Powell	77,585	77,310
Archer County	28,540	28.350
Mexia	27,200	27,600
Electra	21,250	21,040
Stephens County	19,520	19,630
Richland	24,975	24,000
Burkburnett	18 115	17,960
Ranger-Eastland	6,860	6,870
Desdemona-Gorman	6,210	6,445
Reagan County	6,090	5,940
Young County	4,100	4,030
K-M-A	3,355	3,360
Moran-Shackelford County	3,455	3,165
Currie	2,575	2,530
Iowa Park-Shappell	1,480	1 480
Mitchell County	1,655	1,645
Panhandle District	910	1,035
Strawn-Palo Pinto County	1,010	1,000
Brown County	610	560
Petrolia-Clay County	430	430
Coleman County	135	130
Thrall-Williamson County	65	70
Scurry County	70	70
Jack County	20	20
Totals	256,215	255,935

GULF COAST

Hull	17,600	18,875
West Columbia	17,350	12,850
Orange	11,300	11,150
Goose Creek	11,000	11 300
Humble	7,850	7,050
Sour Lake	4,575	4,575
Batson	1,600	1,775
Saratoga	1,570	1,490
Damon Mound	1,250	1,450
Richmond	1,200	50
Spindle Top	950	950
Blue Ridge	705	650
Pierce Junction	240	210
Barbers Hill	175	160
High Island	160	125
Markham	115	110
Dayton	110	125
Nacogdoches	110	110
Hockley	25	30
Big Hill	20	20
Stratton Ridge	...	60
Totals Gulf Coast	77,905	73,115
Totals North Texas	256,215	255 935
Luling	32,000	35,000
Mirando	4,000	4,000
Somerset	2,600	2,600
Rockdae-Minerva	450	475
Totals	373,170	371,125

Condensed U. S. Production for Twelve Months

(Stated in Barrels)

This table is carried each week by The OIL WEEKLY, and shows daily production average for each state or section. Figures for Oklahoma, Kansas, Texas, Louisiana, Arkansas and Mountain States are compiled by The OIL WEEKLY, while estimates for California and Eastern States are furnished by the American Petroleum Institute.

Daily average for month	*Mid-Continent	North Central Texas	Texas Coastal	†Texas Total	Kansas	Okla.	Louisiana	Eastern States	Wyoming-Montana	Calif.	Ark.	U. S. Total
August	726,981	217,208	105,966	323,148	89,998	419,775	97,936	120,750	83,938	375,000	28,834	1,618,765
September	716,107	207,467	107,790	314,932	89,760	418,880	101,857	114,200	80,490	387,000	33,135	1,540,371
October	714,906	200,465	115,130	316,370	90,404	424,037	97,502	116,375	86,412	423,750	34,127	1,489,005
November	711,521	199,223	114,150	388,376	91,098	421,200	93,410	116,375	106,092	450,000	77,225	1,668,776
December	692,702	170,187	111,819	242,010	87,508	435.007	86,513	114,900	103,679	484,000	107,732	1,722,349
January (1923)	708,372	184,885	115,628	304,790	86,720	436,767	81,205	113,500	123,254	517,500	111,920	1,770,645
February	712,007	180,364	96,984	286,493	85,298	446,345	78,068	112,500	110,328	587,500	101,346	1,805,496
March	720,287	184,582	89,873	283,355	86,012	449,693	75,352	109,900	118,580	653,000	108,630	1,888,522
April	756,381	192,148	92,320	293,780	86,133	478,100	76,854	106,000	127,860	711,250	102,099	1,983,026
May	793,774	203,776	90,905	304,032	85,500	504,498	75,368	109,125	125,680	700,125	109,033	2,010.840
June	824,297	217,162	92,240	320,250	85,255	521,880	72,745	110,300	129,559	773,000	133,592	2,159,818
July	866,665	274,330	91,795	378,335	84,785	508,405	70,085	113,000	137,300	851,000	132,395	2,275,305
August	826,982	278,574	94,398	393,780	82,741	464,416	68,739	112,625	137,909	866,250	123,000	2,251,966
September	830,517	371,730	93,649	443,461	77,078	421,763	68,935	108,400	157,742	858,700	127,955	2,269,176
October	876,059	408,036	84,120	511,483	71,362	371,657	65,305	107,750	139,912	823,125	125,145	2,240,741
November	935,975	479,383	82,747	580,700	69,337	287,253	64,701	108,125	151,225	768,275	124,188	2,253,806
December	729,591	283,130	78,033	378,478	68,444	378,017	61,138	110,300	146,770	723,845	120,049	1,987,041
January (1924)	685,540	243,120	75,085	334,485	67,815	374,605	59,125	108,000	144,735	698,965	114,255	1,900,985
February	729,933	254,180	81,131	362,849	68,183	407,568	59,449	104,500	141,775	675,425	114,726	1,934,476
March	762,684	284,874	78,567	388,221	69,864	407,946	55,783	97,800	128,352	650,790	119,869	1,917,023
April	777,590	276,595	76,755	380,005	71,015	429,980	54,740	101,250	127,700	649,825	128,750	1,943,270
May	763,320	267,475	74,175	374,915	71,490	424,355	60,655	103,800	127,770	640,930	148,630	1,952,545
June	799,230	260,785	74,335	375,310	74,265	464,175	62,660	105,750	125,735	628,400	157,165	1,993,465
July	815,830	254,665	75,445	378,365	81,545	479,620	63 855	107,175	124,305	620,175	148,655	2,003,695
Aug.	861,640	254,520	75,700	377,045	85,765	521,355	62,595	107,000	123,895	619,200	142,740	2,037,890
Sept. 6	886,535	256,215	77,905	373,170	86,375	543,945	62,370	107,000	119,530	615,000	135,365	2,042,755

*Includes North-Central Texas, Kansas, Oklahoma.
†Beginning February, 1923, Somerset, Mirando, Rockdale and Luling production included.
NOTE—Mexia production included in North Central Texas.

Interest at Mirando Centered on Two Tests

Laredo, Texas, Sept. 9.—A new oil pool in the Mirando district was probably discovered last Saturday when the No. 2 well of Henne, Winch and Farriss flowed 50 barrels a day. Much interest has been centering around this well and the test of the Mesquite Oil Company on the Mesquite ranch about six miles east of Bruni. Oil men believe that these wells will extend the oil area of the Mirando district.

The Henne, Winch and Farriss well came in recently as a 45,000,000 cubic foot gasser with a light spray of oil, which was mudded off. A syphon was placed on the well Friday, but it did nof clear itself until early Saturday.

The No. 2 of the Mesquite is being tested and it showed considerable oil and gas. All preparations have been made for a big gasser and a 3000-pound pressure valve has been installed. It will be brought in soon.

In the Schott pool Christen-Spreague et al No. 1 cored a good sand at 1640 feet. Casing has been cemented in the test and it will be drilled in shortly. The sand obtained from the test was of high gravity.

The Carolina-Texas Oil and Gas Trust, operating in the Carolina-Texas field, cored a sand below a hard caprock at 3234 feet. Preparations are being made to test the well. Carson and Associated are moving on a rig just southwest of the old Flippen test in the same field, which was shut down at 1800 feet about sixteen months ago. At the time the well was abandoned, considerable oil showings were obtained.

Several new tests are spudding in the Mirando district, while many of the wildcatters and drillers in the proven territory are ready to bring in wells.

During August 960 carloads of crude were shipped from the Mirando fields, as compared with 1027 carloads in July, a decline of 67 carloads in the month.

CALIFORNIA FIELD OPERATIONS

The following table from statistics compiled by State Oil and Gas Supervisor R. D. Bush for California for the past several weeks gives a true insight into field activities:

Month of—	New Wells started	Water Shut-off tests	Deepening jobs	No. Wells aband.
June, 1923	120	195	59	22
July	94	145	46	23
*August	96	141	41	26
September	122	194	39	36
October	114	131	38	25
November	100	151	48	23
*December	105	181	37	32
January, 1924	120	111	48	23
February	125	97	49	47
*March	142	183	81	99
April	130	154	76	34
*May	156	171	79	34
June	118	149	66	18
Week ending—				
July 5	22	27	10	5
July 12	24	36	12	14
July 19	44	31	20	5
July 26	22	35	27	4
August 2	24	46	17	9
August 9	22	31	11	5
Aug. 16	25	24	25	5
Aug. 23	16	21	19	5
Aug. 30	18	20	14	10

*Denotes months with five weeks.

California Oil Courses

Los Angeles, Calif., Sept. 6.—In addition to the courses in petroleum field and refining technology given here by the University of California, two new classes will be added this year. One of these courses is in lubrication and the other in combustion and heat. Siegfried Fischer, formerly instructor in the metallurgy department of Lehigh University and the Colorado School of Mines, will instruct these classes. Anyone interested in subject of oil may join. The first class in combustion and heat meets Friday, September 12, from 6 to 8 in the evening in room 618 Hillstreet Building, and the class in lubrication meets at the same place and on the same day from 8 to 10 in the evening. Information about any of these courses may be obtained at 815 South Hill Street, Los Angeles.

Imports of Petroleum at Principal United States Ports

The following represents the total imports of crude oil for the month with the current month given by weeks:

	Atlantic Ports						Gulf Coast Ports					
	Baltimore	Boston	New York	Philadephia	Others	Total	Galveston	N. Orleans Baton Rge.	Port Arthur Sabine Pass	Tampa	Total	Total at All Ports
April	370,000	669,000	1,074,000	625,000	591,000	3,319,000	1,615,000	1,020,000	1,135,000	168,000	4,362,500	7,681,500
May	344,000	515,000	1,026,000	437,000	615,000	2,937,000	1,351,000	910,000	1,184,000	127,000	3,582,000	6,519,000
June	314,000	421,000	1,791,000	755,000	809,000	4,090,000	1,515,000	1,142,000	1,062,000	229,000	3,948,000	8,038,000
July	287,000	465,000	1,806,000	448,000	898,000	3,876,000	1,471,000	1,120,000	833,000	92,000	3,516,000	7,392,000
September	268,000	565,000	1,744,000	660,000	686,000	3,923,000	1,776,000	1,397,000	880,000	224,000	4,277,000	8,202,000
October	365,000	292,000	1,194,000	536,000	816,000	3,203,000	988,000	1,330,000	380,000	50,000	2,248,000	5,951,000
November	223,000	395,000	1,194,000	576,000	757,000	3,145,000	1,478,000	1,000,000	551,000	111,000	3,287,000	5,432,000
December	474,000	574,000	1,243,000	606,000	1,024,000	3,917,000	2,019,000	1,832,000	933,000	259,000	5,043,000	8,960,000
January	398,000	531,000	1,060,000	376,000	949,000	3,314,000	1,295,000	887,000	689,000	15,000	2,936,000	6,250,000
February	520,000	527,000	639,000	458,000	771,000	2,865,000	1,558,000	1,284,000	525,000	195,000	3,562,000	6,427,000
March	802,000	734,000	1,243,000	502,000	1,668,000	5,049,000	2,346,000	1,689,000	1,116,000	301,000	5,257,000	10,281,000
April	653,000	664,000	1,371,000	407,000	1,067,000	4,162,000	1,641,000	1,492,000	510,000	68,000	3,711,000	7,873,000
May	693,000	618,000	1,368,000	264,000	1,329,000	4,272,000	1,398,000	1,308,000	884,000	169,000	3,759,000	8,031,000
June	515,000	466,000	1,864,000	292,000	1,026,000	4,163,000	1,769,000	1,079,000	685,000	145,000	3,678,000	7,841,000
July	375,000	260,000	1,971,000	179,000	1,114,000	3,899,000	1,418,000	1,211,000	579,000	153,000	3,361,000	7,260,000
August 2	88,000	70,000	530,000	.....	341,000	1,029,000	359,000	248,000	64,000	15,000	686,000	1,715,000
August 9	.....	129,000	110,000	221,000	121,000	581,000	270,000	245,000	181,000	.....	696,000	1,277,000
August 16	85,000	.....	310,000	63,000	50,000	508,000	313,000	212,000	50,000	.....	575,000	1,083,000
August 23	230,000	76,000	702,000	75,000	.....	951,000	512,000	383,000	54,000	45,000	994,000	1,945,000
August 30	60,000	125,000	306,000	109,000	276,000	876,000	403,000	122,000	198,000	20,000	743,000	1,619,000

NOTE—Figures by American Petroleum Institute.

Receipts of California Oil at Atlantic Coast Ports

The following shows the receipts of California oil at Atlantic Coast ports by months with the current month given by weeks:

	Atlantic Ports						Gulf Coast Ports					
	Baltimore	Boston	New York	Philadephia	Others	Total	Galveston	N. Orleans Baton Rge.	Port Arthur Sabine Pass	Tampa	Total	Total at All Ports
March	442,000	184,000	1,355,000	496,000	615,000	2,691,000	.....	.....	.....	.....	.....	2,691,000
April	105,000	256,000	2,456,000	502,000	320,000	3,639,000	.....	478,000	.....	.....	478,000	4,117,000
May	444,000	72,000	1,259,000	764,000	964,000	3,553,000	.....	300,000	53,000	.....	353,000	3,906,000
June	821,000	160,000	3,206,000	826,000	808,000	5,821,000	.....	664,000	.....	.....	664,000	6,485,000
July	443,000	75,000	2,068,000	741,000	699,000	4,080,000	.....	559,000	.....	.....	559,000	4,639,000
August	329,000	229,000	2,956,000	836,000	683,000	5,033,000	.....	970,000	70,000	.....	1,040,000	6,073,000
September	1,028,000	237,000	2,581,000	621,000	443,000	4,910,000	.....	703,000	.....	.....	703,000	5,613,000
October	779,000	224,000	2,503,000	779,000	429,000	4,714,000	.....	746,000	.....	.....	746,000	5,460,000
November	591,000	155,000	2,302,000	584,000	271,000	3,903,000	.....	935,000	.....	.....	935,000	4,838,000
December	454,000	215,000	2,901,000	813,000	753,000	5,136,000	.....	729,000	.....	.....	729,000	5,213,000
January	619,000	77,000	3,156,000	659,000	503,000	4,660,000	.....	615,000	.....	.....	615,000	5,275,000
February	326,000	145,000	2,811,000	842,000	75,000	4,199,000	.....	810,000	.....	.....	810,000	5,009,000
March	298,000	77,000	3,352,000	989,000	413,000	5,129,000	.....	.....	.....	.....	.....	5,129,000
April	170,000	77,000	2,633,000	378,000	224,000	3,482,000	.....	.....	.....	.....	.....	3,482,000
May	190,000	147,000	2,771,000	411,000	273,000	3,792,000	.....	315,000	.....	.....	315,000	4,107,000
June	522,000	147,000	2,490,000	443,000	220,000	3,822,000	.....	.....	.....	.....	.....	3,822,000
July	167,000	70,000	2,017,000	374,000	188,000	2,816,000	.....	75,000	.....	.....	75,000	2,891,000
August 2	.....	.....	603,000	.....	.....	603,000	.....	.....	.....	.....	.....	603,000
August 9	108,000	.....	842,000	58,000	.....	1,008,000	.....	30,000	.....	.....	30,000	1,038,000
August 16	77,000	.....	445,000	105,000	75,000	702,000	.....	.....	.....	.....	.....	702,000
August 23	125,000	.....	311,000	45,000	470,000	1,083,000	.....	.....	.....	.....	.....	1,083,000
August 30	90,000	.....	713,000	80,000	75,000	958,000	.....	.....	.....	.....	.....	958,000

Note—Figures by American Petroleum Institute.

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Recent Adverse Showings and Water Encrouchments Stop Richland Drilling

Corsicana, Texas, Sept. 9.—Failure of the Richland field to score any important extensions to the proven area in recent weeks has caused drilling operations to slump to a low level, and daily production is beginning to show a decline. The total crude production for this field since the discovery well was completed last January amounted to 1,135,000 barrels up to September 1, according to pipe line runs, and more than half of this total crude yield was made during the month of August when daily average production amounted to 18,425 barrels. This oil drainage from the structure has been followed by serious encroachment of water in all sections of the field, and particularly so in wells that drilled too deep in the Woodbine sand pay. In order to combat this water trouble the majority of the operators are co-operating with the assistance of the United States Bureau of Mines in plugging back wells causing the water damage to the oil pay.

A slight extension was given the southwest end of the field recently when Gulf Production Company's R. C. Elkins 2 swabbed 30 barrels at 2996 feet, but the same company's Elkins 1 failed to show any oil in the Woodbine and has been abandoned in salt water at 3018 feet. The first attempt for deep production in the vicinity of the Richland field has been abandoned at 3567 feet in salt water. It was drilled by S. T. Green and associates on the Green lease, located a short distance northwest of the discovery well, but across the fault.

McIntyre et al's wildcat test on the Richards farm, located more than a mile west of the south end of the Richland field has attracted some interest by reporting a show of gas at 2922 feet, and traces of oil in broken formation at 3080 feet. Drilling was suspended late last week after reaching a depth of 3088 feet, and a string of casing may be run. This test is reported to have logged the Austin chalk from about 2250 to 2545 feet with a surface elevation of 397 feet.

Total pipe line runs for the Corsicana-Powell field during the month of August amounted to 2,457,000 barrels, or a daily average of about 79,255 barrels. The daily average maintained by the field during July was reported at 85,500 barrels, thus indicating the present rate of depletion of the field. Crude stocks in the Corsicana-Powell district proper were reported to amount to 9,952,100 barrels on September 1, and were reduced about 184,300 barrels during the month.

Houston, Texas, Sept. 10.—Announcement is made of the promotion of R. E. Connell, for several years Eastern representative of The OIL WEEKLY and other Gulf Publishing Company publications, with headquarters at Pittsburgh, to be advertising manager of The Gulf Publishing Company publications, headquarters at Houston.

Mr. Connell is succeeded in the Eastern territory by H. H. Gill, until recently with the Oil Trade Journal at New York. Previous to his connection with the Oil Trade Journal, Mr. Gill has been connected with trade publications for fifteen years and is well known to the advertisers in the territory which he will cover for The Gulf Publishing Company publications, including The OIL WEEKLY, The Refiner and Natural Gasoline Manufacturer and The Filling Station Magazine.

Mr. Gill will maintain headquarters at New York, which will involve moving the present Eastern office of The Gulf Publishing Company from Pittsburgh. The New York office address has not been arranged and will be announced later.

Mr. Connell is moving his family from Pittsburgh to Houston.

Two Oil Publications Combine in New York

New York, N. Y., Sept. 5.—The consolidation of The Oil Trade Journal of this city and Oil News of Galesburg, Ill., into one publication to be known as The Oil Trade, has been effected through the purchase of the former journal by the Shaw Publishing Company, publishers of Oil News. Also included in the deal is the Petroleum Register which has been issued semi-annually by The Oil Trade Journal for several years. Fuel Oil for Heat and Power will continue to be published by the Shaw Publishing Company.

The executive offices of the company have been moved from Galesburg to 350 Madison Avenue with the Chicago office remaining at 20 East Jackson Street.

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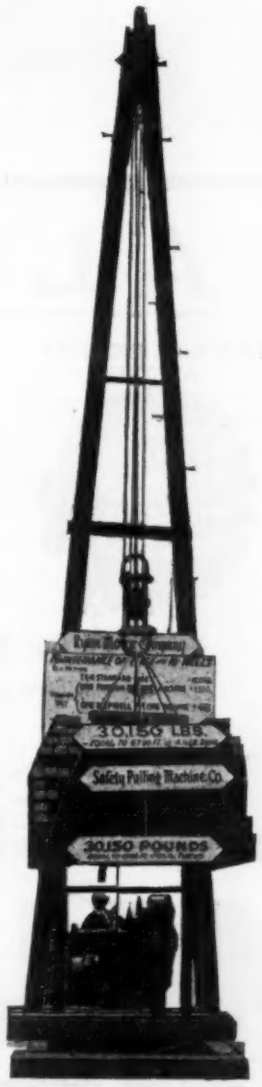
Wreckers also made to order, approximate weight 5000 lbs. One of our customers stated that he has pulled a pressure equal to 100 tons with one of these machines.



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Foreign Delegates Will Make Tulsa Exposition Real International Affair

Tulsa, Okla., Sept. 9.—Germany, Russia, Egypt and England are the most recent nations to add their delegates to the international throng that will assemble at the Petroleum Congress and visit the exposition in Tulsa, from October 2 to 11.

From Germany comes the word that Alfred Wirth, president of the Alfred Wirth Company, Erkelenz, Rhineland, internationally known manufacturer of oil equipment, will attend he oil show in person. His firm had previously engaged space for an exhibit of two of their most popular models in rigs. Wirth is an outstanding leader in European manufacturing circles, and will be an interesting figure at the congress. Another German company, Allgemeine Oel - Handels - Gesellschaft mit beschrankter Haftung, will send one of the members of the firm, and the exposition's second German exhibitor, "Erda" of Gottingen, manufacturer of geophysical instruments, will send a representative to accompany their exhibit of geological instruments.

A. Serebrovsky, president of the Russian Oil Trust, Azneft in Baku, who is touring the United States at the present time, will return to Tulsa for the exposition, and will address the congress on the subject of Russian oil fields. As the highest official of the oil industry in Russia, and connected with the Soviet government, Serebrovsky promises to bring a most interesting point of view to the gathering, and will present the most authoritative report available on the conditions and system employed in the Russian industry.

A letter from Dr. F. M. Moussa, first attache of the Egyptian legation in Washington, designated three of his countrymen as that nation's official representatives at the congress. They are Abd-El Hamid effendi El Difraouri, Mahmond effendi Abu Yeid, and El Hanofi effendi El Said Fahmy. Dr. Moussa declared that there is also the possibility of his attending the oil show also.

The Institution of Petroleum Technologists in London, England, has expressed a great interest in the exposition from the first, and will this year send one of their members, F. B. Plummer, as their official representative. Maurice Ockenden, European manager of the Oil Well Supply Company, and Thomas C. Bannon, will come posted on the oil situation throughout the European continent, due to their wide connection with all fields.

With the French, Italian and South Central American representatives who have previously made arrangements to attend, the number of foreign delegates will reach nearly two score, and will bring to the oil show the best minds and most influential forces in the petroleum industry of other lands.

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Treatise On Oil Engines

The person who desires to obtain impartial and reliable information about oil engines, will find in "British Oil Engines," a book recently written by W. A. Tookey, M. I., M. E., a valuable treatise in non-technical style.

This book has been written primarily for the man who knows little or nothing about oil engines, and is thorough. It contains much interesting historical matter and traces the development of oil engines through their various cycles of growth.

The following are the headings of chapters: I, Introductory; II, External Ignition Engines—Class A; III, Class B Engines, surface ignition with compression of oil vapor and air; IV. Some notes upon the management of paraffin engines; V, Class C Engines, compression of air only, and ignition by hot surface; VI, Class D Engines, engines with compression ignition, "Diesel" types; VII, Class D Engines, compression ignition, cold starting types; VIII, working hints for cold-starting engines; IX, Oil Engine Management; X, hints to attendants.

Copies of the book are for sale by The Gulf Publishing Company, P. O. Box 1307, Houston, Texas.

Deep Well in Cotton Valley Extension Shows Salt Water With Big Gas Flow

Shreveport, La., Sept. 8.—The Ohio Oil Company's No. 1 Bank of Cotton Valley, in section 22-1-10, of the southwest extension to the Cotton Valley field, was completed last week as a big gasser, spraying salt water. This test is well located structurally, in that it offsets three dry gassers on the north and east and is only about three-eighths of a mile south of the Invincible Oil Company's extension oil well. The first, and only, oil well in the extension was achieved by deep drilling, as also was this, the first salt water well. The Invincible's well, which when completed was the deepest well in the extension, makes from 200 to 500 barrels of oil per day. The Ohio's well was drilled twenty feet deeper still, and into salt water. It probably is the deepest well, below sea-level, in the entire field. Operators adopted a policy of drilling each test in the extension deeper than its predecessors: and it simply fell to the lot of the Ohio company to drill into salt water. The well probably will be plugged back at once.

Robinson et al, having the Ohio's experience as a guide, stopped their Duke well, in the same section, at a level forty feet shallower, and it was bailed in yesterday morning as a dry gasser.

A highly important test is in progress today in the Pardee well drilled by the Alabama Petroleum Company and Moffett and Murphy, in section 24-21-10, on the eastern slope of the structure, where very little drilling has as yet been done. This well is being tested in nine feet of sand at a total depth of 2511 feet, six feet shallower, below sea-level, than the Invincible's extension oil well. This test encountered the top of the sand at a level considerably lower than did the dry gas wells near the center of section 23, adjoining on the west, and, for this reason, it is believed to be "in the running" as regards the possibility of oil production.

New locations have been made in the southwest extension by S. S. Raymond and Jim Evans, the Invincible Oil Company, the Ohio Oil Company, and the Gulf Refining Company.

A total of 174,000 barrels of Cotton Valley crude was run to the pipe lines last month, leaving on hand in the field, at the close of the month, 171,500 barrels. Production averages have been declining steadily throughout the last month.

Another gas blow-out was reported from the Waskom area last Tuesday, it having occurred in Fuller and Scott's No. 1 Waterman Lumber Company, in which an attempt was being made to set eight-inch casing at 856 feet.

Urania

The Urania Petroleum Company is preparing to drill the plug today in its No. 4 Urania Lumber Company, in section 20-10-2e, of the Urania district, La Salle Parish. Eight-inch casing was set at 1552 feet. The Columbia Oil and Gas Company has begun rigging up to drill another wildcat on the Urania company's holdings, in section 22 of this same township.

Shreveport, La., Sept. 9.—The Pardee well drilled by the Alabama Petroleum Company and Moffett & Murphy in section 24-21-10 on the eastern slope of Cotton Valley structure, came in yesterday afternoon and made several good heads of clean oil. It had very little gas and soon sanded up. They ran a sand pump last night to clean out sand and will swab today. Hard to estimate value of well, as it may not have enough gas to make it flow. It might make from five hundred to a thousand barrels of oil per day if it will flow steadily. This completion extends oil productive area a mile and a half southeast from the discovery section of the field and more than two and a half miles east from the Invincible Oil Company's recent southwestern extension.

Cotton Valley Casing Requirements Changed

Shreveport, La., Sept. 8.—The rule requiring that three strings of casing be set in the Cotton Valley field, except as amended by the Department of Conservation's Circular Letter No. 20 of June 16, 1924, was again amended by a letter from the Supervisor of the Minerals Division to Cotton Valley operators under date of September 6, reading as follows:

"On account of the decrease in the closed pressure in the western portion of the Cotton Valley field, the three-strings of casing rule is hereby suspended for those portions of Sections 16 and 21, Township 21 north, range 10 west, lying more than 660 feet west of the east boundary lines of said sections.

"This relief is granted provided that, in using two strings, at least 450 feet of surface casing will be set and jacketed to the surface with cement, using no less than 75 sacks of cement. These stipulations are of course in addition to the requirements as set forth in the laws of the State."

The amendment of June 16, 1924, exempted the north tier of forties in sections 14 and 15, of the same township.

A new well in the Mounds, Oklahoma, Townsite Field.

Oakridge Quits Bandini After Spending Million

Los Angeles, Calif., Sept. 6.—The Oakridge Oil Company, one of the most conservative and strongest of the smaller oil companies of California, decided this week to quit exploration work in the Bandini district between Los Angeles and Santa Fe Springs, after spending approximately $1,000,000.

The company held around 300 acres at one time in this district and drilled four wells. Rossi 1 is to be abandoned at 4730 feet, Gage 1 had reached a depth of 5035 feet, K & B had drilled to 5513 feet and another hole was shut down at 1035 feet. All wells are to be abandoned.

The first test found an oil sand that fooled them all. It looked very much like the sand found at Santa Fe Springs and some of the best oil men of the state felt sure that a real oil well must be completed. But the test did not pan out and it never could be produced. The other two tests met the same fate.

The company was so sure of getting production that 15,000 barrels of steel storage was erected, a loading rack built, a telephone line run from town, electric light wires strung and a nice bungalow built for the lease superintendent. The company even signed a contract to sell the expected production to the Pacific Oil Company.

Due to shows in the first well, several of the larger companies secured close by acreage at prices higher than usually paid for wildcat stuff.

The oil business is not a little man's game in California.

W. K. Hughes President Wescott Valve Company

St. Louis, Mo., Sept. 6.—W. K. Hughes of the Continental Supply Company of St. Louis has been elected president of the Wescott Valve Company of Seneca Falls, New York. Henry N. Greis of Tulsa is vice president and other officers are E. A. Frank, Romaine Summers and Warren Abbott.

Directors of the Wescott Valve Company include Mr. Hughes, Mr. Greis, W. G. Skelly, Clint Moore, Robert Sharpe, Charles Quinlan and Arch W. Leonard of Tulsa.

Dover, Del., Sept. 8.—Charter has been filed here for the Ohio Fuel Corporation with a capital stock of $100,000,000 for the exploration of oil, natural gas and coal. Incorporators include A. M. Hooven, T. L. Croteau and S. E. Dill.

Producer Reported for Grand County, Utah

Conflicting reports from wildcat drilling several years say that well blew itself in

Denver, Colo., Sept. 8.—Conflicting reports have been received here regarding the completing of a well in Grand county, Utah, last week by the Crescent Eagle Oil Company. Some reports were that the well blew itself in with oil going over the derrick, but this is discounted. The location of the well is some forty miles west of the Colorado line near Thompson station on the Denver and Rio Grande Western railroad. This well has been drilling for several years and completion has been held up on account of numerous difficulties.

The last verified reports on the Crescent Eagle well was on August 30, when the well was down 3150 feet with 2000 feet of oil in the hole. The well is near the edge of what is known as the Cisco fold near where the Midwest Refining Company has begun a test.

No new developments are reported from the Moffat pool in Moffat county, Colorado. The Meyer 1 in section 9-4-91, in the Moffat pool, being drilled jointly by Texas Production and Transcontinental Oil Companies, has encountered shale oil at approximately the same depth as it was found in the discovery well and a fishing job still is holding up operations on the Freeman 1. The Weyand 1 well is near the top of the sand, or believed to be so, and is awaiting the finishing of a fishing job before being drilled in. The French 1 of the Midwest Refining Company on Iles dome in Moffat county in section 22-4-92 is down below 2553 feet and the Dakota sand is expected within the next 100 feet. The hole now is full of oil.

While not of any great importance as yet, but of considerable interest in and around Casper, the Midwest Refining Company's strike of black oil on the North Casper creek, some 28 miles north of the town, is a new development in that section of Wyoming. At 2020 feet a heavy flow of water was encountered in this well, which is located in the southeast corner of section 36-37-82, and some oil showed of a thick, black hue. The crude likely is under 20 gravity. Elsewhere in Wyoming the Union Oil Company is making preparations to explore as many as five new structures that the company's representatives have blocked out.

Construction of tankage at the Whitaker well of the Union Oil Company in Larimer county is progressing and with its completions steps will be taken to test out the area. The company is understood to have spotted three new wells in the territory, two of which likely will be drilled on Wellington dome. The Mitchell 1 well of the Union, which came in as a gasser last July, has finally been capped and now is shut in. The flow from between the casings in the Whitaker well, located in section 30-8-68, has increased to around 700 barrels, or possibly 800 barrels, daily.

A total of seventy-seven operations were reported in Colorado at the beginning of this week.

Two New Pools in Montgomery County Show for Week's Results in Kansas

Wichita, Kansas, Sept. 9.—Montgomery county for the second week was the attraction for Kansas operators, when two new pools were found in the shallow Wilcox sand. Kors and Wilkins on the Thompson farm, seven miles southeast of Independence, in the southwest corner of the southwest of section 12-33-16, found the pay at 1378 feet and was believed to be good for 1,000 barrels. Owing to the fact that a great deal of the land in this district had not been leased, land men were very active there.

The second new pool was found by the Pennant Oil Company, No. 1 Henderson, in the southwest corner of the southwest of the northeast of section 10-31s-16e. It is thought to be a good producer. This well marks the opening of the fourth new pool in the last 60 days in the county, and the fifth in this year. The Coleman pool was opened by the Red Bank Oil Company with No. 1 Coleman, in section 28-32-14, on July 2. Canary and others found a pool on the Deuel farm, in the southeast corner of the northwest of the northeast of section 6-35-15. Just a year ago the Lamb pool was opened southeast of Coffeyville by the Red Bank Oil Company.

The Elco Petroleum Company drilled in the seventh well of the Coleman pool and the well was estimated as good for 750 barrels. The well is located in the northeast corner of the southeast of the northwest of section 33-32-14.

The Elk Hill oil pool, or Coleman pool, four miles southeast of Elk City, is not but two months old, yet has proven itself to be a major factor in the Kansas oil interests. It has just received its seventh producer, and is putting out close to 4,000 barrels of oil a day. The discovery well, No. 1 Coleman, is reported to have quit flowing, and is to be placed on the pump. The well is the property of The Red Bank Oil Company, and was first reported to be making 3,000 barrels.

The oil is of a rich green color, and has a slight sulphurous odor and is said to be rich in lubricating qualities, and tests 33 degrees gravity. At this time there is approximately 10 rigs on the field.

The scouts are watching developments in Russell county, and are expecting three wells to drill in during the week. They are: No. 1 Oswald, 2725 feet; No. 2 Oswald, 2640 feet; No. 2 Ed Oswald, 2840 feet. They are all expected to be producers, and have had showings of oil. All are being drilled by the Valerius Company.

The Watchorn test in Clark county is now down to the depth of 4750 feet on the Morrison ranch in section 20-32-21. This breaks all deep drilling records of the state.

Cowley county is soon to have its first production in two weeks, Waite Phillips and associates are now ready to drill in, however. Waite Phillips will soon have seven other wells on the sand. They are: Glasgow No. 4, 2825 feet; Dora Johnson No. 1, 1900 feet; Nelson 1, 2245 feet; Thurlow 1, 690 feet; Wertman 5, 1025 feet; Wertman 4, 1300 feet; Wertman 6, 560 feet.

Phillips is making a thorough test of the Arkansas River valley on the Albright farm in the northeast of the southeast of section 6-33-3, two and a half miles north of the Rainbow Bend district. Drillers stated that they are now down to 3670 feet and will continue drilling as long as the hole is in shape in hopes of making 4000 feet.

Rice county has a 400-barrel producer north of Hutchison. The well was drilled by the Prairie Oil & Gas Company in section 35-20-6w. This is the second well in this vicinity. The new producer is creating considerable excitement. It is located on the Miller farm, fourteen miles from Hutchison.

John Rogers, O. G. Bitler and Jake Bevererly closed the biggest deal of the year when they sold their property in Greenwood county to F. G. Gillock and associates of New York City, for a price reported to be $1,250,000. A total of 877 acres of oil field properties is included in the deal.

The Champlin Refining Company's wildcat well on the Kraft land, section 17-30-1 west, 18 miles southwest of Wichita, came in for a half million-foot gasser, at between 2500 and 2600 feet.

Inspect Transcontinental Properties

Pittsburgh, Pa., Sept. 6.—Officers and directors of the Transcontinental Oil Company, including several bankers of New York and Chicago, left Pittsburgh this week on a special car for an inspection trip over the company's properties in Colorado, Texas, Louisiana, Arkansas, Oklahoma, Kansas and other states.

Columbus, Ohio, Sept. 8.—Ohio Public Service Company is seeking authority to purchase the gas properties of the Central Ohio Gas Company with headquarters at Wooster.

Reagan County Leases Bring $300 Per Acre

Rumor persists that Texon interests will sell portions of holdings; build gasoline plant

By H. H. King

Fort Worth, Texas, Sept. 8.—Prices on wildcat acreage in the vicinity of the Big Lake oil field in Reagan County section of West Texas reached a new high level last week when the Grayburg Oil Company contracted to purchase an 80-acre protection lease around a test to be drilled by the Crockett Drilling Syndicate and others on University land for $150 per acre cash and a similar amount to be paid in oil. Humble Oil and Refining Company and Gulf Production Company are reported to have also contracted for protection leases around this same test at prices said to be $125 cash and a like sum to be paid in oil. Two 80 acre leases were taken by Humble while Gulf is taking one eighty. The promoters of this test are rigged up and ready to spud in the southwest corner of section 9, block 9, and slightly more than three miles northeast of the Big Lake Oil Company's University 11 well, which is the largest producer in the field.

In reality a permit to prospect for oil and gas, and not a lease is held on the acreage surrounding the above test, while production must be obtained within a specified length of time to cure the permits and take out regular leases. Permits on 16 sections of land in Reagan and part in Crockett County will be validated if a producer is obtained. The permits on these sections were originally purchased from the State for ten cents per acre, and are now held jointly by various officials of the Benedum-Trees interests and West Virginia parties, while the Crockett Drilling Syndicate is to drill the the test for an interest in the lease. This test is located outside of the Texon Oil and Land Company's large leasehold, and is in the path of the present trend of big production in the field. It offers the only opportunity for the major companies to obtain fairly close in protection without paying the lease prices the Texon Oil and Land Company is holding out for.

Production in the Big Lake field amounted to 6090 barrels daily average from nine pumping and flowing wells during the past week, with about 2180 barrels coming from the Texon Oil and Land Company's recent completion in section 1, block 8. The Big Lake Oil Company's University 11, section 24, block 9, continues to flow about 1800 barrels daily, although it is boosting its own production through a 3-inch line for a distance of about one mile to a central tank farm. This arrangement serves to choke the flow of the well, and is being done because of the present market for the oil being limited to about 4000 barrels daily.

The board of directors of the Big Lake Oil Company recently ordered the payment of a dividend of three-quarters of one per cent in September, and also appropriated a fund to erect a natural gasoline manufacturing plant in the Big Lake field. Materials will be shipped shortly from Oklahoma for the erection of a two million cubic feet daily capacity combination plant, and other units are to be added as the gas production is increased. A recent test made of the gas in this field shows a gasoline yield ranging from 2.8 to 4 gallons per thousand cubic feet of gas, indicating that the natural gasoline industry has great possibilities for further expansion in Texas.

The departure of Frank Pickrell, vice president and actively in charge of all operations of the Texon Oil and Land Company, from the field late last week for New York City, accompanied by Truett Cranfill, lease broker of Dallas, has given rise for rumors of an impending lease deal on a part of the Texon block. While negotiation may be started by Pickrell with parties in New York City for the sale of checkerboard leases in the Texon Company's leasehold, an immediate sale is not generally expected since the acreage prices quoted by Pickrell are not in line with what major companies are willing to pay until more of the Texon block is proven for oil production. The Texon Company has resumed drilling on its University 1, section 22, block 9, and is preparing to set a string of 6⅝-inch casing at about 2895 feet. This test is two miles east of the largest well in the field, and logged the top of the lime at 2801 feet, which is considered unusually high and favorable for production. It is understood that it will not be drilled in for the time being.

Hugh H. Tucker, geologist of San Angelo, Texas, who worked out the geology on the Big Lake oil field and selected the location for the discovery well, has announced that he has two more structures ready to be drilled in the general vicinity of the Big Lake field and that locations will be announced in a few weeks. Tucker has devoted about ten years of his time in making an intensive study of geological conditions along the Marathon Fold in and surrounding Reagan County, and has covered most of the ground on foot, thereby giving him first hand knowledge of conditions.

Empire Sells Smackover Pipe Lines and Storage

Bartlesville, Okla., Sept. 8.—The Empire Companies announce the sale of the Empire Pipeline and Petroleum Company's holdings in the Smackover, Arkansas, field to the Crusader Pipe Line Company. The deal involves eight miles of six-inch pipe and 77 acres of land including a million barrels of earthen storage, loading rack and other equipment.

Although this sale takes the Empire Pipeline and Petroleum Company out of the Smackover field the Empire Companies still have producing properties there.

Wichita, Kans., Sept. 8.—N. T. Gilbert of Tulsa and Julius Mayer of New York have been appointed ancillary receivers for properties in Kansas of the Middle States Oil Corporation of New York. They also have been named in a similar position for the properties in Arkansas of the Wichita Petroleum Company, O. L. D. Operating Company, Federal Marketing Corporation, Marr Oil Corporation and others.

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25,000 feet 4-inch Used Line Pipe

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6 Sets 6-inch Used Ideal Rig Irons.

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Completions for Past Week in U. S. Fields

Summarized Review of Field Results

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Oklahoma	60	83	54	58	1	7	5	19	34,486	20,646
Kansas	24	8	17	2	..	..	7	4	3,926	190
Texas	89	79	39	52	12	3	38	27	8,718	18,910
Arkansas	15	15	13	11	2	..	..	1	887	645
Louisiana	10	11	4	3	4	5	2	3	3,036	612
Eastern States	217	167	154	92	36	47	27	27	2,050	1,791
California	23	30	23	30	..	....	..	4	7,455	12,990
Totals	423	393	304	248	55	62	79	85	60,558	63,362

Note—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; N. S. E. W.—North, South, East, West; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudded; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—under reaming; wo—workover; woar—waiting on standard rig.

California

Company, Well and Location	Initial Production Bbls.	Depth
C. C. M. Oil Co.'s Torrance 45	300	3720
Pan American's Parman 1	100	3850
Standard's Sentinel Joughin 8	265	3825
Sentinel Joughin 10	250	3802
Sentinel Oil Co.'s Joughin 12	1000	3834
Southland's Oakley 2	200	3776
Montebello—		
Standard's Howard & Smith 2	130	3548
St. Helens' Eggleston 1 (wo)	130	4276
Rosecrans—		
Barnsdall Oil Corp.'s Rosecrans 1	800	4369
Huntington Beach—		
Sun Oil Co.'s Benson 5 (wo)	150	3332
Rhodes Oil Co.'s Krohn 1 (wo)	125	2766
Geo. F. Getty's Cady Walker 1 (wo)	35	3607
Domingues—		
Shell Co.'s Reyes 10	75	3877
Long Beach—		
Courtney Pet. Co.'s Pauley 1 (wo)	450	3380
Petroleum Midway's Fields 8	220	4654
Shell Co.'s Alamitos 16	1000	4850
A. T. Jergins' Long Beach 12	725	4890
Hub Oil Co.'s Beck 1 (wo)	85	4180
Shell Co.'s Hutton 4	275	4991
Pan American's U. P. 4	90	5005
Elk Hills—		
Associated's 1-A Sec. 26-30-24	210	3245
Midway—		
Pacific O. Co.'s No. 122, sec 25-31-23	600	3364
Sunset—		
General Petroleum's Buena Vista 9	240	3800

Texas

ARCHER COUNTY

Barnes & Bishop et al L. F. Wilson 3	55	1605
Bagley Oil Co. Mrs. C. Waggoner 1	*	1503
Balyeatt et al B. Z. Lyles 1	*	1652
Roy I. Carter et al J. H. White 1-E.	100	1604
Consolidated Oil Co. W. J. Ragle 2-B	110	1074
W. J. Ragle 2-C	50	1076
W. J. Ragle 2-D	115	1070
R. W. Dilday et al L. H. Farmer 1	*	1621
Humphries et al J. H. White 2	110	1627
Jefferies et al J. E. Parrish 1	*	1674
Landreth Production Co. Oil Investment Co. 1	*	1806
Murchison & Fain's J. T. Richardson 5	25	1343
R-F Oil Co. A. P. Nichols 3	190	1614
Shamrock Oil Co. Goldsmith 7	130	1355
J. T. Richardson 10-B	100	1319
J. T. Richardson 3-C	150	1310
Swastika Oil Co. J. T. Richardson 1-D	†	1150
United Drilling & Dev. Co. L. F. Wilson 1	*	2102

BURKBURNETT

Sid Cochran et al A. Weeth 1	10	1726
Couch & Winfrey J. W. Donohoe 8	45	1339

ELECTRA

Appel & Brandeberry G. Jennings 2-B	100	1976

Company, Well and Location	Initial Production Bbls.	Depth
H. Burkland et al Burnett Estate 1	*	2002
Burnett Ranch Oil Co. Burnett Estate 6	140	1810
Texhoma Oil & Ref. Co. Burnett Estate 9-B	100	1823
Homer Lee et al S. H. McCarty 3	50	1696
J. J. Douglas et al G. Jennings 3	*	516
Magnolia Pet. Co. L. P. Douglas 9	20	950
Section Two Oil Co. Burnett Estate 3	150	1587
United Central Oil Corp. S. H. McCarty 11	150	1687
S. H. McCarty 12	200	1687

K-M-A AND IOWA PARK

Dee et al C. A. Mangold 1	*	1833
Underwood Drilling Co. N. Maer 6	25	788

YOUNG COUNTY

Seaboard Oil & Gas Co. H. C. Stoffers 1	*	2738

STEPHENS COUNTY

Magnolia Pet. Co. J. W. Brown 5-DD	†	3821
Prairie Oil & Gas Co. C. M. Caldwell 1	1275	3278
Snowden & McSweeney Jones 1	*	4376

EASTLAND-RANGER

R. O. Dulaney-Parsons et al J. S. Motes 1	¶12	3107

GULF COAST

Richmond—		
Gulf Prod. Co.'s Davis 15	2000	2490
Hull—		
Gulf Prod. Co.'s Phoenix Dev. Co. 36, wo	100	3475
Texas-Vaccum Oil Co.'s Hannah 3	100	2850
Spindle Top—		
Wonder Oil Co.'s Lowery 2	10	800
Saratoga—		
Rio Bravo Oil Co.'s B-10	*	965
Weldon Oil Co.'s Kirby 5	10	650
San Bernard Oil Co.'s Hooks 7	40	1410
Batson—		
Sun Co.'s Paraffine 73	*	900
Deutser Oil Co.'s Trustee 10	*	900
Goose Creek—		
Gulf Coast Oil Corp.'s Gaillard 21 acres 28, wo	*	3170
Sour Lake—		
Minor Oil Co.'s Fee 73	*	1800
West Columbia—		
Humble Oil & Refg. Co.'s T. & W. 9	50	2925

SOUTH LOUISIANA

Edgerly—		
Evans and Stovall's Wilson 2, wo	*	2375

CORSICANA-POWELL

Elliott et al's Hill 3	*	2930
Pure Oil Co.'s Kenner 1	*	3000
Witherspoon Oil Co.'s Springfield 1	*	3200

RICHLAND

Company, Well and Location	Initial Production Bbls.	Depth
Guf Prod. Co.'s Elkins 1	*	3000
Elkins 2	300	3000
Atlantic Oil Prod. Co.'s Swink 4	1200	2976
Oxford Oil Co.'s Davis "B" 4	300	3000
Sun Co.'s Brown 8	850	2965

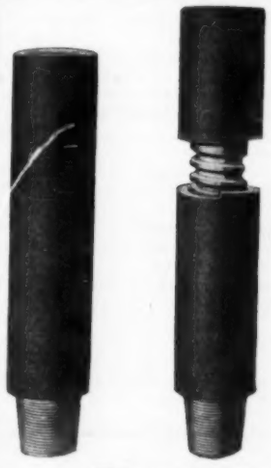
Oklahoma

Burbank Field—		
The Carter Oil Co.'s No. 10, C NE SW SE 16-26-6	563	2980
No. 14, C S L SE SW SW 16-26-6	75	2964
Phillips Petroleum Co.'s No. 5, C S L SE SW SE 20-27-6	25	2955
Kewanee O. & G. Co.'s No. 12, C SW NE SE 18-27-6	30	2978
No. 13, C S L SE NE SE 18-27-6	225	2975
Phillips Pet. Co.'s No. 11, C SW NE SW 11-27-5	500	2985
Carter County—		
Magnolia Pet. Co.'s No. 7 Bennett, NEc SW NW 31-2s-2w	40	2565
Carter Oil Co.'s No. 39 Noble, C NW NE NE 21-4s-2w	15	4085
Continental Supply Co.'s Williams 1, C NE NE SW 18-2s-2w	*	2806
C. R. Smith's No. 7 Fee, C NE SW SW 26-2s-3w	30	3300
Amerada Pet. Corp.'s Kirby 1, C SE SE NW 20-5s-1e	20	1810
Westheimer's Dilliard 16, C N L NW SW SE 22-4s-2w	75	2590
Roxana Pet. Co.'s Johnson 20, C SE NE SW 4-4s-3w	7	3100
Creek County—		
Devonian Oil Co.'s Ralston 3, C N L NE SE SE 9-16-10	*	2847
W. W. Harter et al's No. 1, SWc SE 2-19-10	*	2560
Shaffer O. & R. Co.'s Ross 1, SWc 13-19-8	20	3250
Selby O. & G. Co.'s Barnett 1, SEc NW 31-19-9	60	3165
Garvin County—		
Texas-Pacific's Parnell 8, C SW SE 9-1n-3w	120	1567
Hughes County—		
Josey Oil Co.'s Manley 1, C SW SW NE 22-9-9	50	3401
Transcontinental's No. 2, C NE SW NE 4-9-9	160	3326
Foster Oil Co.'s Tiger 2, C SW NW NE 4-9-9	70	3336
No. 2, C NW SW NE 4-9-9	430	3085
Tiger 1, C SW SW NE 4-9-9	805	3329
Papoose Oil Co.'s Alexander 10, C NW NE SE 4-9-9	20	3344
Kingwood Oil Co.'s Davis 5, C NE SW SW 3-9-9	546	3320
Jefferson County—		
Prairie O. & G. Co.'s Seay 1, SWc NW SW 34-6s-5w	112	1228
Hambro Oil Co.'s Seay 2, C S L NE SE 33-6s-5w	40	1370

Company, Well, Location	Initial Production Bbls.	Depth
Kay County—		
Comar Oil Co.'s L. Endicott 5, C NW SE 2-24-1w	20	1860
T. B. Slick's Endicott 5-E, SEc SW SW 35-25-1w	3500	4047
Pennock Oil Co.'s Endicott 1-D, SEc 34-25-1w	2500	4102
Comar Oil Co.'s No. 5-W, NWc NE SE 34-25-1w	4520	3998
No. 1-W, SEc NW 34-25-1w	5318	4151
National Union Oil Co.'s No. 2, NWc NE SW 16-27-1w	60	3205
Comar Oil Co.'s Endicott 6-W, SEc NW SE 34-25-1w	5003	4091
Wentz Oil Corp.'s No. 18 McKee, C SE NE SW 34-25-1w	2944	4203
Pennock Oil Co.'s Endicott 5-D, NWc SW SE 34-25-1w	4700	4222
Osage County (Outside Burbank Field)—		
Breene et al's No. 2, NEc SE NE 22-21-10	45	1678
No. 1-A, C S L SW SW 14-21-10.	243	1682
Plymouth Pet. Co.'s No. 1, C S L NW NW 34-22-9	*	2253
Red Bank Oil Co.'s No. 5, C S L SE SW 20-23-8	17	932
Twin States' No. 7, C W L NW NE 13-23-8	30	2833
Marland Oil Co.'s No. 1, C NE NW 10-24-9	*	2361
The Texas Co.'s No. 7, C W L NW NE 29-25-8	¶	2403
Pawnee County—		
Ed. Reece et al's Van Eman 1, NEc 17-20-7	400	3100
Magnolia Pet. Co.'s No. 1 Burgman, NEc NW SE 16-20-6	150	3106
Seminole County—		
Roxana Pet. Co.'s Buckner 1, C NW NE NW 12-8-8	368	3406
Dixie Oil Co.'s Logan 1, SWc SW SE 25-8-7	218	2861
Amerada Pet. Corp.'s Bruner 6, C SE NW SE 16-10-8	412	3556
Stephens County—		
Skelly Oil Co.'s Frensley 25, C S L SW SW 26-1s-5w	10	771
Magnolia Pet. Co.'s Dillard 22, C S L SE SE NE 2-2s-5w	10	669

Kansas

Butler County—		
Dutton & Gillespie's No. 1, NWc SW 17-28-7	*	2758
Chase County—		
Muncey Oil Co.'s Quinn 1, NEc SE 1-19-8	*	2514
Phillips Pet. Co.'s Hughes 1, SWc SE 15-22-9	*	3670
Cowley County—		
Southwestern Pet. Co.'s Eastman 7, SEc SW NE 6-31-6	100	2878
Empire G. & F. Co.'s Eastman 1-A, NWc 5-31-6	95	2885
Bryan & Stinson's Dunn 1, NWc NE 18-32-3e	*	3507
Elk County—		
Mitchell et al's Perkins 1, C SE SE 6-30-9	*	2720
Clark Drilling Co.'s Darnell 2, SWc NE NW 12-30-9	60	2264
Greenwood County—		
Empire G. & F. Co.'s Teeter 9, SEc NE SE 16-23-9	44	2386
Reverly et al's Hendrickson 3, C E L SE NE 22-24-9	100	2203
Polhamus et al's Hendrickson 2, NEc SE SE 22-24-9	30	2213
Marshall 11, C N L SW 34-24-9..	200	2330
Cosden O. & G. Co.'s Sullivan 13, NWc SE NW 14-24-12	50	1754
R. G. Gillespie's Browning 5, C SW NE NE 19-22-10	75	2321
Lewis Oil Co.'s Heidelson 3, SEc 1-24-9	100	2359
Roth et al's Cartwright 2, NEc SE NE 1-24-9	40	2351
Lyon County—		
White Eagle O. & R. Co.'s No. 1, SWc NE 26-19-13	*	2275



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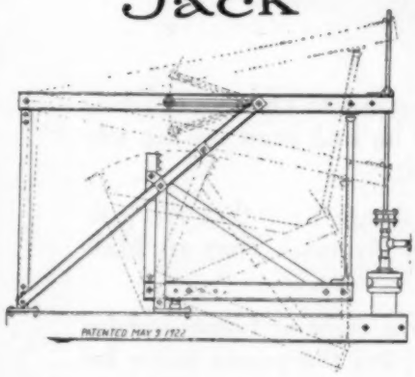
The Jensen Straight Lift Jack



The Polished Rod *can't* Bend

The Jensen Jack lifts it *Straight up,* and lowers it *straight down*

without any strain or excessive wear on the Rod, or on the Stuffing Box Rings, or on anything else.

The Straight Lift makes a five-foot stroke practical. Made in No. 2 and No. 3 sizes.

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PROCESS PATENTED. The Barnickel processes for treatment of cut oil and other petroleum emulsions by the use of chemical agents are protected by valid process patents issued by the United States and foreign countries.

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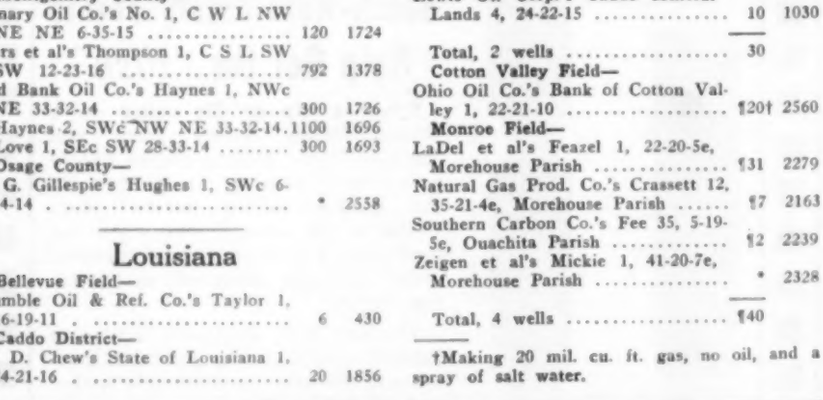
WM. S. BARNICKEL & CO.
ST. LOUIS, MO.

Company, Well, Location—	Initial Production Bbls.	Depth
Montgomery County—		
Canary Oil Co.'s No. 1, C W L NW NE NE 6-35-15	120	1724
Kors et al's Thompson 1, C S L SW SW 12-23-16	792	1378
Red Bank Oil Co.'s Haynes 1, NWc NE 33-32-14	300	1726
Haynes 2, SWc NW NE 33-32-14.	1100	1696
Love 1, SEc SW 28-33-14	300	1693
Osage County—		
R. G. Gillespie's Hughes 1, SWc 6-14-14	*	2558

Louisiana

Company, Well and Location	Initial Production Bbls.	Depth
Bellevue Field—		
Humble Oil & Ref. Co.'s Taylor 1, 16-19-11	6	430
Caddo District—		
W. D. Chew's State of Louisiana 1, 34-21-16	20	1856
Lewis Oil Corp.'s Caddo Mineral Lands 4, 24-22-15	10	1030
Total, 2 wells	30	
Cotton Valley Field—		
Ohio Oil Co.'s Bank of Cotton Valley 1, 22-21-10	¶20†	2560
Monroe Field—		
LaDel et al's Feazel 1, 22-20-5e, Morehouse Parish	¶31	2279
Natural Gas Prod. Co.'s Crassett 12, 35-21-4e, Morehouse Parish	¶7	2163
Southern Carbon Co.'s Fee 35, 5-19-5e, Ouachita Parish	¶2	2239
Zeigen et al's Mickie 1, 41-20-7e, Morehouse Parish	*	2328
Total, 4 wells	¶40	

†Making 20 mil. cu. ft. gas, no oil, and a spray of salt water.



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El Dorado, Kansas—Oil Field Specialties Supply Company.
Fort Worth, Texas—Longhart Supply Company, 608 1st National Bank Bldg.
Louisiana, Arkansas and Houston, Texas—Petroleum Supply Company.

Arkansas

Company, Well and Location	Initial Production Bbls.	Depth
Stephens Field—		
Magnolia Pet. Co.'s Rhinehart 2, 36-15-20, Columbia County	20	2122
Irma Field—		
Autrey et al's Drake 1, 10-14-21, Nevada County	100	1169
Smackover Field, Ouachita County—		
Atlantic Oil Producing Co.'s Wells B-3, 25-15-17	35	2290
Forrest Oil Co.'s Cramer 5, 22-15-16	175	2298
Cramer 7, 27-15-16	80	2297
R. B. Nelson's Jeffus 3, 26-15-17	70	2341
Skelly Oil Co.'s Chandler 5, 19-15-16	7	2317
Sutton et al's Ebenezer 1, 20-15-16	100	2302
Smackover Field. Union County—		
Gilliland Oil Co.'s Staples 3, 1-16-17	20	2267
Holliday Trust's Goff 5, 6-16-16	60	2269
Magnolia Pet. Co.'s Bradford 1, 8-16-15	¶20	2298
Riggs Drilling Co.'s Rice 3, 6-16-16.	90	2265
Pure Oil Co.'s Massey 3, 17-16-5	100	2117
Standard Oil Co.'s Alpin 4, 2-16-15.	¶25	2270
United Central Oil Corp.'s Burton 2, 25-16-16	150	2046
Total, 13 wells	¶45-	887

Eastern States

SOUTHEASTERN OHIO

Washington County—		
J. T. Campbell Blazier Heirs 1	2	....
J. T. Dillon H. Decker 9	*	900
O. S. Reckard F. F. Dana 4	10	....
C. A. Peavey & Co. Torner Oil 79	10	....
Earl Stephenson Charles Schultz 1	2	....
Coshocton County—		
Pure Oil Co. W. L. Norris 2	15	....
Croup & Marlin B. B. Keiser 8	3	....
Monroe County—		
Latimer & Co. Riley Smith 1	2	....
Guernsey County—		
Ohio Fuel Supply Co. J. C. Rankin 1	¶1	....
Noble County—		
Beeson & Athey Mrs. Hoge 1	*	....
Muskingum County—		
Mid East Oil Co. Schrader 1	*	....

CENTRAL OHIO

Wayne County—		
Logan Gas Co. E. T. Kissinger 2	*	....
D. Ramsyer 1	*	....
F. Pressler 3	*	....
U. A. Russell 2	¶1	....
W. M. Gill 2	¶½	....
L. Funk 1	¶¼	....
East Ohio Gas Co. E. L. Steiner 1	¶1	....
Ohio Oil Co. Chas. Haupert 1	¶½	....
Brinkerhoff & Co. E. & S. Myers 2	*	....
E. R. Carmony A. L. Hossington 1	10	....
Holmes County—		
Cumberland Pet. Co. W. A. Smith 1	50	....
Central Ohio Gas Co. S. R. Snyder 1	¶1	....
Wm. Watts 1	*	....
Arkansas Fuel Oil Co. W. H. Geib 1	30	....
East Ohio Gas Co. Gilbert Johnson 2	*	....
Perry County—		
Chartiers Oil Co. Hocking Products 190	230	....
Midland Oil Co. George Trout 1	¶½	....
Atha Oil Co. Mellick Bros. 10	¶2½	....
Edgar Denman & Co. Martin Heirs 5	15	....
Licking County—		
Logan Gas Co. L. T. Rees 1	*	....
Spindler & Donaldson C. A. Bounds 7	3	....
Ralph Bros. Inc. C. E. Bricker 2	¶¼	....
Ashland County—		
Logan Gas Co. Wm. Monteith 6	¶6	....
Mart Zimmerman 3	¶½	....
W. L. Rohrer J. E. Finley 2	*	....
Hocking County—		
Sunday Creek Coal Co. Fee 18	30	....
Chartiers Oil Co. Robt. Walters 2	2	....
Fairfield County—		
Blume O. & G. Co. McCandless 2	10	....
Knox County—		
Upham Gas Co. B. Hobbs 2	¶¼	....
Athens County—		
Cook, Rice & Co. W. Rice 2	¶1	808

NORTHWESTERN OHIO

Company. Well and Location	Initial Production Bbls.	Depth
Mercer County—		
O. C. Fink Jacob Alt 1	25	1303
J. Bollenbacher Jr. 2	20	1308
Home Banking Co. G. F. Hellsworth 2	25	1297
June Oil Co. M. E. Riese 1	15	1292
Henry Hohn H. Hohn 1	1	1300
Strong Bros. F. V. Bollenbacher 2	3	1300
Hancock County—		
H. A. Bower Bower 1	40	1319
B. Porter & Co. J. H. Haley 18	45	1317
Ewing & Montgomery Flick Heirs 8	10	1324
Wood County—		
Melvin Good M. R. Speck 2	15	1276
B. Perry Fay C. Burkhalter 1	25	1380
Darke County—		
Real Oil Co. G. Goodpasture 1	2	1299
Creamer & Co. Mary Warning 1	*	1325
Auglaize County—		
Whipple, Ulrich & Co. G. Foltz 1	24	1307
Paulding County—		
W. C. H. Oil Co. Yearling 2	20	1437
Ottawa County—		
Fox & Co. J. B. Netcher 2	10	1319
Hardin County—		
Schmidt & Holmes J. H. Hill 1	¼	1407

INDIANA

Jay County—		
Will Mesel J. B. Jeffries 1	40	....
Mesel & Mesel D. W. Bergman 4	40	....
Pike County—		
Nelson Bros. Gust Yager 1	*	1407

ILLINOIS

Wabash County—		
Adam's Corner Oil Co. J. T. Smith 5	30	1480
Black Gold Oil Co. J. T. Smith 1	30	1501
Edmondson Oil Co. Price Heirs 1	70	1498
Whiteside & Co. H. Armstrong 1	50	1502
Seidner & Smith Holson-Dorney 1	80	1493
Clark County—		
Trenton Rock Oil Co. J. S. Carper 10	40	1410
Wm. Howard 2	45	1410
W. C. McBride Inc. Nettie Baker 2	55	1408

Eastern States

PENNSYLVANIA

Bradford Field—		
South Penn Oil Co. Riddle 38	5	....
Fee 44	5	....
Jones 1	4	....
Bingham 570, tract 95	8	....
Bingham 533, tract 61	3	....
Bingham 150, tract 50	3	....
Armstrong 1	3	....
Shepard 1	*	....
Wilbur 1	7	....
Associated Prod. Co. Bingham 184, tract 280	4	....
Bingham 184, tract 278	3	....
Bingham 581, tract 268	2	....
Bingham 582, tract 270	2	....
Bingham 591, tract 256	2	....
Huston & Lowry, Huston 9	3	....
Huston 10	7	....
Kishwaukee Oil Co. Bingham 173, tract 43	20	....
Knabb & Hartzel Griffith 1	7	....
M. E. Jones, Jones 52	7	....
J. H. Logan & Co. Newell 1	*7	....
Elk Producing Co. Lot 2593 tract 1	7	....
A. W. Palmer, Palmer 1	7	....
Hazlewood Oil Co. Bingham 370, tract 1	7	....
C. L. Wann & Co. Bingham 370, tract 31	4	....
Rhodes & Co. Emerson 1	5	....
Wright & Co. Wright 1	5	....
J. Benton, Campbell 1	5	....
Pringle & Murphy Loop 15	5	....
J. Roggenbaum Roggenbaum 1	5	....
J. C. Looker & Co. Looker 19	5	....
Devore & Potter Marvin 1	4	....
Wormer & Fennell Febbell 1	4	....
Nichols & Potter Keating 1	3	....
Venango County—		
Vannago O. & Land Co. Fee 215	2	....
Fee 216	4	....
Midland Oil Corp. Stevenson 31	4	....
Mong, Utzinger & Co. Moorehead 1	¼	....
Titus, McKim & Co. Phila-Boston Right-of-way 4	¼	....
Alum Rock Gas Co. Crawford & Gregory 2	¼	....
John Preston Crawford 3	3	....
Jackson O. & G. Co. Crystal Springs 6	3	....
McCray & Berry Straub 2	2	....
L. T. Cole Cole 8	2	....
F. W. Mitchell Estate Mitchell 121	3	....
Clarion County—		
L. G. Neely & Co. Yingling 4	¶1	....
E. A. Bream & Co. Slaughenhaup 1	2	....
Galey 5	*	....
J. W. McLaughlin Kenemuth 1	½	....
Birnie & Tippery Fox 1	2	....
Alum Rock Gas Co. Garis 5	3	....
Butler County—		
Meeder & Duncan Duncan 5	4	....
E. W. Eisler & Co. Mann 1	4	....
J. D. Kelley & Co. Garner 2	4	....
Baird & Co. Campbell 1	*	....
T. W. Phillips O. & G. Co. Sloan 5	*	....
Greene County—		
South Penn Oil Co. E. Hindley 1	20	....
Patterson & Covert P. D. Hoskinson 1	¶2	....
Peoples Natural Gas Co. E. & R. Headley 1	¶2	....
Philadelphia Oil Co. Davis Ammon 1	¶2	....
Manufacturers Light & Heat Co. Wm. Boler 1	¶2	....
Beaver County—		
McConnell Oil Co. J. McConnell 1	¼	....
Edwards & Co. McDevitt 7	2	....
Miller & Co. Price Heirs 4	5	....
Houston & Co. Randolph 2	*	....
Washington County—		
W. . Dallmyer & Co. J. Cavetory 1	3	....
E. H. Tague J. Buchannan 1	*	....

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Branch Factory: Dallas, Texas
P. O. Box 1033, Dallas, Texas
Sales Representatives at
Casper Wyoming
Houston Texas
Tulsa Oklahoma
Wichita Falls Texas

Company, Well and Location	Initial Production Bbls.	Depth
Carnegie Natural Gas Co. Thomas Day 1	*	....
Center-Middle Field—		
Conrad & Co. Osten 3	12	....
Scofield & Co. McCoy 1	*	....
C. E. Carnahan Jennings 31	3	....

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
Allegany County—		
Empire Co., Ltd., Empire 1	12	....
No. 2 Empire 1	*	....
No. 2 Empire 2	7	....
No. 2 Empire 3	3	....
No. 2 Empire 4	3	....
R. J. McDermitt McDermitt 1	3	....
McDermitt 2	3	....
F. W. Forness Forness 1	3	....
Dusenberry & Co. Wheaton 1	3	....
Lavens & Co. Lavens 1	7	....
Bolivar Field—		
Putnam & Son Cartwright 1	5	....
Kinley & Finnesy Turner 1	5	....
Richburg Field—		
Malson & Funk Friar 1	25	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
Pleasants County—		
Creek Oil Co. Ogdin-Rose 2	2	....
C. D. Sloan Poor farm 1	5	....
Braden, Depew Bros. & Co. Westbrook 2	*	....
Frank Shier Hammett Heirs 7	2	....
Creek Oil Co. Ogdin-Rose 3	2	....
Ritchie County—		
D. M. Heckert & Co. Sommerville 1	¶1	....
Carneigie Natural Gas Co. John A. Hall 1	*	....
D. C. Reese & Co. West Virginia tract 29	5	....
Smith & McMullen A. T. Prather 1.	¶1	....
Cairo Oil Co. B. F. Prince 8	2	....

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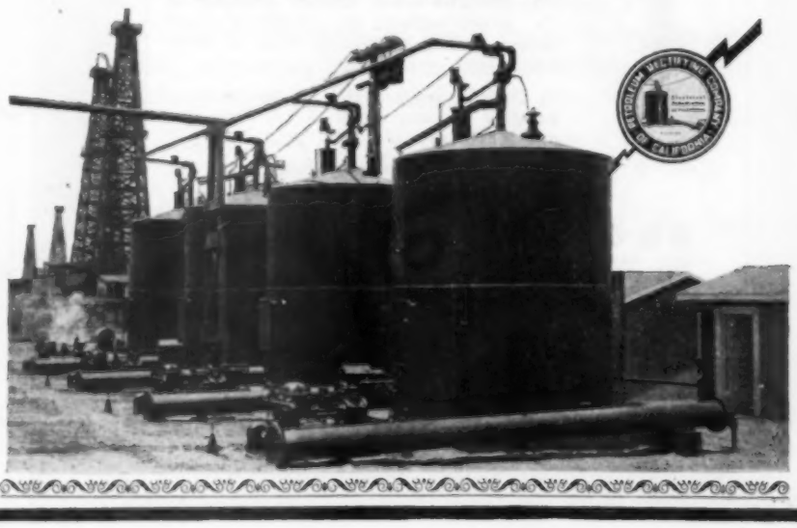

Company, Well, Location—	Initial Production Bbls.	Depth
Kanawha County—		
United Fuel Gas Co. W. L. Devert 1	¶3	....
D. W. Stump 1	¶2½	....
H. M. Dodd 2	¶½	....
Doddridge County—		
Carter Oil Co. A. J. Ash 2	15	....
Clifton O. & G. Co. Jos. Freeman 9	30	....
Marion County—		
Maxton O. & G. Co. J. R. Baker 4	10	....
Hope Const. & Ref. Co. J. L. Hays 1	5	....
Marshall County—		
U. S. Stamping Co. John Markey 2	10	....
Geo. P. Washmuth & Co. Ott & Son 1	*	....
Cabell County—		
Aetna O. & G. Co. S. A. Wallace 4	¶¼	....
Monicle Gas Co. Leonia Rucker 1	¶½	....
Lewis County—		
Carl Wohince & Co. J. P. Cole 1	15	....
Gilmer County—		
Hope Const. & Ref. Co. G. Fisher 1	8	....
Wetzel County—		
Silver Hill Oil Co. Anna Steele 1	8	....
Harrison County—		
Woodall & Marsh T. W. Keesey 1	¶¼	2974
Putnam County—		
Sovereign Gas Co. J. Beckett 1	¶2	....
Roane County—		
Carter Oil Co. J. W. McDade 1	¶1	....
Wood County—		
Daniel Kelley E. A. Kennedy 14	*	....
Monongalia County—		
Randall Gas Co. Noah Wright 1	¶½	....
Tyler County—		
Premier Oil Co. Wm. Birch 1	*	....

KENTUCKY

Lawrence-Johnson Counties—		
Union G. & O. Co. D. W. Skaggs 9	35	822
M. E. Sparks 8	35	812
F. Ferguson 1	20	814
Indian-Tex Petroleum Co. Jesse Rose 3	10	812
Jesse Rose 4	10	817
G. Gilliam No. 2 tract 8	10	809
J. C. Gilliam 4	10	808
Johnson-Magoffin Counties—		
Kentucky Counties Oil Co. C. E. Roark 2	40	....
Burning Fork Oil Co. R. Salyer 3	20	....
Cumberland Pet. Co. Sam Collins 9	5	....
Atlantic Oil Prod. Co. Frank Conley 66-acres 14	5	....
Pet. Exploration Co. W. S. Adams 20-acre 4	5	....
R. G. Gillespie D. Conley No. 2 tract 1	5	....
Bed Rock Oil Co. W. H. Conley 28.	5	....
Lee County—		
Petroleum Exploration Co. Ben Smitn 1	20	....
Ben Smith 2	20	....
Halley Prod. Co. Gourley-Brandenbury 7	5	....
Gourley-Brandenbury 8	5	....
Warren County—		
Makeever Bros. Young 11	15	625
H. Z. Clark Gillespie 103-acres 4	15	1084
Olive Green Oil Co. McLemore 6	7	1112
Gillespie Oil Co. Gillespie 8	5	1105
Barren County—		
Fred Moore McCubbin 4	12	519
Carter Oil Co. Gooden 1	6	548
Star O. & G. Co. Star 3	2	520
Owensboro District—		
C. A. Leeper Dr. Garrett 3	10	....
J. S. Collier 1	2	....
Ike Harkless A. Payne 1	3	....
Allen County—		
Victor DeCaigney S. T. Allen 26	2	366
Todd & Berry Graves 10	5	166
White Plains O. & G. Co. Motley 1	*	416
Wayne County—		
Head, Brown & Co. H. Upchurch 9	10	....
Beaver Petroleum Co. L. N. Morrow 8	2	....
Estill County—		
Wood Oil Co. Floyd Rogers 25	2	....
Floyd Rogers 26	2	....
Cumberland County—		
W. S. Raydure C. Blythe 3	50	831
Boyd County—		
Mid South Oil Co. Carey and Fannin 1	1	....

Kentucky Producer Deepened One Foot Makes Largest Flowing Well in Months

Pittsburgh, Pa., Sept. 8.—A very active week prevailed in the petroleum fields east of the Mississippi River, there being a gain over the previous week of 52 wells and approximately 400 barrels of initial production. This does not look as though the operator is making an effort to close down development work, but means to go right ahead regardless of the price of crude, and get as much production as possible at the lowered price of drilling contracts, and in doing this expects to have a nice increase in production when the prices show an upward trend.

All eyes of the oil trade in the east is focused on the important wildcat well being drilled by J. N. Thompson & Company on the Williams farm, just out from Boonesboro Beach, in the northern part of Madison county, Ky., and about nine miles south of Winchester, and something like 20 miles out of Lexington. This well site is chosen for the opening up of a new field, being located on practically the same fault as the once famous Irbins field, in Estill and Powell counties. Surface indications are much better in Madison county, than is the case in Estill and Powell counties. This well will be drilled to a depth of 1250 feet, unless productive shallow sands are encountered. Scouts of all the large producing companies and many individual operators are watching the outcome.

Charley Ross, one of the old-time contractors, is also at work on another very important well that may develop something new for the trade to work on, as he is drilling the Canada Peak Oil Company's well just out of Middlesboro on Canada Mountain, in Bell county, and the most southeasterly county of Kentucky.

The big sensation of the week was the drilling deeper of the W. S. Raydure & Sons well on the Koop farm, in Cumberland county, Ky. This well was a big producer in the shallow sand and was drilled some deeper and showed 10 barrels an hour, where it was allowed to flow for some time and then the tools were put back in the hole and after drilling less than a foot deeper, started off flowing at the rate of 100 barrels an hour, making it the largest well developed anywhere in Kentucky for a number of years.

Outside of the Kentucky gusher the best well completed for the week in the entire Eastern Fields was found by the Chartiers Oil Company in No. 190 on the Hocking Products big lease, in Coal township, Perry county, in the Central Ohio field. This well penetrated the deep Clinton sand and started at 230 barrels a day. Another well in this same field, but in Holmes county, drilled by the Cumberland Petroleum Company, on the W. A. Smith lease, showed a production of 50 barrels from the same formation, and is a wildcat venture. The Arkansas Fuel Oil Company brought in a wildcat on the Geib tract, in the same county, with 30 barrels. The big gas well of the week in this field was landed by the Logan Gas Company on the Monteith tract, in Ashland county, with a volume of 6,000,000 cubic feet.

Southern New York fields are holding their own in development work, as is the fields of Pennsylvania, especially the Bradford field of McKean county, and the Venango and Clarion county fields. The wells are small, but hold their production for years. The best find in the Bradford field was made by the Kishwaukee Oil Company on the Bingham tract, with 20 barrels.

West Virginia had little to show in large production of either gas or oil for the past several days.

Southeastern and northwestern Ohio fields, nor the Indiana fields had much of importance to show for the week. Illinois has quite an active boom located in Wabash county, where wells above the general average are being brought in from day to day, regardless of the low price of Illinois crude. Oil in this county is found around the 1500-foot depth and wells equipped cost close around $5,000, and come in from 5 to 200 barrels flush.

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Interesting Canadian Tests Marking Time; Experimenting With Tar Sands

Calgary, Alta., Sept. 8.—The Irma-Wainwright field is still the great center of interest in Alberta; though even there developments are at the moment of writing marking time. Three tests have reached the interesting stage where the producing sands have been reached, but production has not yet been determined.

British Petroleums No. 3, section 29-45-6w4, and British Petroleums No. 4, close to the No. 2 well on section 30-46-6w4, both have good indications of oil. No. 4 encountered the same sand as was productive last fall in No. 2, while No. 3 got its producing sand at a higher level. No. 3 is getting ready to drill in, a 2500-foot drill stem having recently been unloaded for this purpose. The deeper drilling here was done with a core drill. Preparations are also being made to drill in No. 4. The next week should see definite results here.

Maple Leaf Oil & Gas Company's No. 1, section 24-45-8w6, which has a large gas production at about 1775 feet, is setting and cementing casing before drilling into the sand. No. 2 is rigging up close to No. 1. At Irma the Irma Oil Development Company's town lot test on section 28-45-9w4 has resumed drilling.

The results, still uncertain, secured in these three wells have encouraged other and newer companies to a show of activity, some drilling equipment is being moved in, and there is rather vague talk of new locations, but so far no actual new work appears to have been done. A report is current that Imperial Oil, Ltd., will transfer all its drilling outfits except one from the far north to the Irma-Wainwright field, preparatory to an intensive drilling campaign; but Imperial Oil, Ltd., has repeatedly disclaimed the intention of doing any further work in this area. In any event, no new drilling by this company is likely till next year.

In the Athabaska district, McMurray Asphaltum & Oil, Ltd., is continuing its tar sand operations; and a lot of tar sand has been shipped out this year, chiefly for experimental purposes. The extraction of crude oil from the tar sand seems now to be regarded as a secondary consideration, the present development being more and more along the lines of mining material for road-building. The chief difficulty is to get the stuff out at a competitive price. However, Robert M. Birck of Chicago, representing the Blackston Petroleum Company, recently visited the field, examining into the possibility of extraction by means of the McClabe process.

In southern Alberta, an interesting deep test is being drilled in the Okotoks field by the Royalite Oil Company, an Imperial subsidiary. Royalite No. 3, a gasser, has been deepened to 3410 feet, the 6-inch casing being carried down to this depth. The supposition is that an oil reservoir at greater depth feeds the producing sands already encountered in this field. The Royalite venture if carried through to the requisite depth will at least conclusively prove or disprove a belief held by many operators since the Calgary boom.

Further south on the foothill belt, the Imperial Oil, Ltd., test at Rice Creek, 40 miles west of Nanton, is drilling steadily, though it will likely require another season to finish. In the Sweetgrass field, east of Coutts, Canadian Oil & Refining Company's No. 1 (Rogers-Imperial) has halted drilling at 2650 feet to set the 4½-inch casing. A mile north, the Imperial test on the Talpey leases is rigged up, ready to spud in.

In the Ontario fields, Union Natural Gas Company's No. 251, John Shanks farm, Romney township, Kent county, is drilling more than 150 feet in the Trenton limestone. Eugene Coste & Company's No. 7, Matt Boyle farm, Dover East township, Kent county, which got the Trenton at 2894 feet, is now about 100 feet in, and drilling.

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Permits Granted and Locations for New Wells

(California—Kansas—Oklahoma—Texas—Arkansas—Louisiana)

KANSAS

Butler County—Stanford et al's No. 1 Harder, southeast corner of 21-24-3. Peoples Oil & Gas Co.'s No. 1 Skaer, northwest corner of the northeast of the southeast of 25-27-4.

Cowley County—Alcorn Oil Co.'s No. 2 Graham, southeast corner of the northeast of the northeast of 9-33-3; Graham 3, southeast corner of the southwest of the northeast of 9-33-3; Wright 1, northwest corner of 10-33-3; Wright 2, southwest corner of the northwest of the northwest of 10-33-3. Roxana Pet. Co.'s Bowen 1, southwest corner of the northwest of 10-33-3. Day Bros.' Able 1, northeast corner of the northwest of the southeast of 31-33-4.

Elk County—C. E. Roth et al's Hanna 3, northwest corner of the southwest of 13-29-8.

Ellis County—B. B. Faler et al's Murphy 1, northwest corner of the southeast of 33-15-20.

Ellsworth County—Kirkland & Kline's Kottman 1, northeast corner of 3-14-9.

Greenwood County—Empire Gas & Fuel Co.'s Kipper 2, southeast corner of the southwest of the southeast of 11-22-11; Budy 2, southwest corner of the northwest of the southwest of 18-22-11. Derby & Polhamus' Teeter 1, southeast corner of the southwest of 36-23-9. Phillips Pet. Co.'s Seeley 12, center of the northwest of the southeast of 5-23-11.

Labette County—Arkansas River Gas Co.'s No. 1, center of the southwest of the southwest of the southwest of 26-32-17.

Harvey County—Stalker et al's Godfrey 1, northeast corner of the northwest of 19-22-2. S. A. Hunter Symonds 1, southeast corner of 27-22-2.

Montgomery County — Sharpless & Stark's Edwards 1, northwest corner of the northeast of the northwest of 23-31-13.

OKLAHOMA

Carter County—Twin States' Davis 4, C SW NE SW 23-2s-3w; Jefferson 6, C NW NE SW 25-2e-3w. Amerada Petroleum Corp.'s No. 17, SWc NE 20-5s-1e.

Creek County—Acosta et al's Holden 2, C W L NE NE 14-18-11. Suppess et al's No. 1, Lot 12, Block, Mound Townsite 8-16-12. Stover et al's No. 1, Lot 19, Block 36, Mound Townsite, 8-16-12.

Grady County—Atlantic Oil Prod. Co.'s McCaughtry 1, C SE NW 35-5n-8w. Hagerling et al's McCaughtry 1, C NE NW 35-5n-8w. Hay-Barber Drilling Co.'s Taylor 1, C NW SE 2-5n-7w.

Hughes County—T. B. Slick's Alexander 1, NWc NE NW 2-9-9. Berry Pet. Co.'s A. Cahupco 1, SE SW SE 1-8-8. Sinclair Oil Co.'s Sam Manley 1, SEc SW NW 1-8-8. Dixie Oil Co.'s A. Larney 1, NE NE NE 11-8-8.

Jefferson County—Heynick et al's Grayson 1, SEc NE SE 18-6s-5w.

Kay County—McMann Oil Co.'s Suiter 3, SEc SW SE 27-25-1w (old well deepened). Amerada Pet. Corp.'s Woods 30, C NE NW NE 34-25-1w. Comar Oil Co.'s Beverlin 2-W, C SW 34-25-1w. Phillips Pet. Co.'s McDaniels 4, C NW NE NE 34-25-1w. Comar Oil Co.'s Ogg 6, C SE SW SE 35-25-1w. Carter Oil Co.'s Godfrey 12, C SE SW NW 35-25-1w.

Noble County—Comar Oil Co.'s Gaume 3, C NW NE NE 2-24-1w; Gaume 10-W, C SW NE NE 2-24-1w; Pettitt 15-W, C SW NE NE 3-24-1w.

Okfuskee County—Kingwood Oil Co.'s Sand 2, SW SW SW 35-10-9. T. B. Slick's Dunson 1, SW SW NE 35-10-9. Hartman et al's Sears 1, NEc 5-11-11.

Okmulgee County — Hutchinson & Becker Anderson 2, SWc NE 34-16-12. C. A. Wheeler-Wilder's Gibson 1, SWc SE 5-15-11. King & Jackson's Murphy 2, SEc NE SW 2-13-12 (old well deepened). Bears & Wilder's Vusove 1, SEc 1-12-12.

Pawnee County—Magnolia Petroleum Co.'s Leascher 1, SEc NE 21-20-6e (old well deepened). Josey Oil Co.'s Freeman 2, C SE SE 21-20-6e (old well deepened). Twin States Fleming 2, SWc SW SE SE 8-20-7e. Cosden Oil & Gas Co.'s School Land 1, NWc 16-20-7e. J. H. Markham's Clark 1, SWc 9-20-7e. Clifford & Van Eman's Westbrood 7, townsite block No. 1, NEc 17-20-7e. T. E. Mann et al's Pettit 2, NEc NW NE 17-20-7e. Josey Oil Co.'s Laughlin 5, SEc 35-19-5e. Mutual Oil Co.'s Beard 12, NEc 25-20-5e. Holmes et al's Timothy 1, SWc NE NE 22-19-10e.

Seminole County—Producers & Refiner's Salinda 2, SE SW NE 21-8-8. Boggs-Sykes et al's Willis 6, SWc SE NE 31-8-8. Magnolia Pet. Co.'s (old well deepened) Franz 1, NE NW SW 32-8-8. Roxana Pet. Corp.'s Yarhola 10, SW SE SW 3-10-8. Sinclair Transcontinental Oil Co.'s Bruner 6, NW SW SW 9-10-8. Gypsy Oil Co.'s Hale 5, SW SW NE 9-10-8; Hale 6, SW SE NE 9-10-8. Roxana Pet. Co.'s Berryman 4, NE NE NW 10-10-8. Carter Oil Co.'s Little 2, NE SW NE 10-10-8.

Tulsa County—T. B. Slick et al's Moore 1A, SWc SE SW 36-18-14. Slick's Akween 2, SEc NE SW 1-17-4.

ARKANSAS

Columbia County—Hargis et al's Souter 1, 24-17-22, 300 ft S and 150 ft E of NWc NE¼ SE¼.

Lincoln County—Bennett et al's Jones 1, 33-10-6. lcn not checked.

Ouachita County—J. E. Crosby's Berry 5, 33-15-15, 200 ft S and E of NWc SE¼ NW¼. Forrest Oil Co.'s Cramer 8, 27-15-16, old well to be deepened, 200 ft S and E of NWc SE¼ NW¼; Cramer 9, 27-15-16, lcn not checked. Gilliland Oil Co.'s LaGrone S-4, 36-15-17, 155 ft S and W of NEc SW¼ SE¼. Green et al's LaGrone 2, 30-15-16, in townsite. Hazen et al's Fincher 3, 29-15-16, 330 ft S and 150 ft E of NWc SE¼ SE¼. Riggs Drilling Co.'s Myar 3, 29-15-16, 200 ft N and E of SWc SE¼ SE¼. Stumpff & Todd's LaGrone 4, 30-15-16, townsite. The Texas Co.'s McKinzie 2, 36-15-16, 330 ft S and E of NWc NE¼ SE¼.

Union County—Arkansas Fuel Co.'s Dumas 2, 29-16-15, NEc SW¼. Flo-Ark Oil Co.'s Murphy 1, 36-16-16, 200 ft S and E of NWc NE¼. Leonard et al's Pendleton 1, 21-18-15, old well to be deepened, 200 ft N and 480 ft E of SWc NE¼ SW¼. Magnolia Pet. Co.'s I. Smith 2, 2-16-17, 200 ft N and W of SEc Lot 2. NE¼. McFarland et al's Graves 4, 3-16-15, center east line W½ SW¼ NE¼. Packard et al's Fox 1, 21-16-15, 350 ft S and 22 ft W of NEc NW¼ SW¼. The Texas Co.'s Alphin 5, 3-16-15, 200 ft S and W of NEc SE¼. United Central Oil Co.'s Craig 3, 15-16-15, 200 ft S and E of NWc SE¼.

LOUISIANA

Bossier Parish—Dixie Oil Co.'s Rhoen 1, 10-19n-11w, 150 ft N and 150 ft W of Center of Sec.

Calcasieu Parish—Vinton Pet. Co.'s Starks et al 13, 34-10s-12w, 275 ft N and 50 ft E of SW Cor. of Sec.

Ouachita Parish—Southern Carbon Co.'s Fee 37, 29-19n-5e, 660 ft E and 550 ft S of NW Cor. of SW¼; Fee 38, 29-19n-5e, 660 ft E and 1240 ft N of SW Cor of NW¼.

St. Mary Parish—Cote Blanche Development Synd.'s Cote Blanche 1, 12-15s-7e, 400 ft W and 660 ft N of SE Cor. Lot 12, Block 12.

Union Parish—Jones & Walker Oil Co.'s Feazel 1, 6-19n-2e, 200 ft N and 200 ft W of SE Cor. SE¼ of SW¼.

Webster Parish — McDowell & McCleary's Hortman 1, 15-20n-10w, 400 ft S and 400 ft E of NW Cor. SE¼ of NE¼. S. S. Raymond's R. M. Coyle 1, 21-21n-10w. 330 ft N and 330 ft W of SE Cor. SW¼ of NE¼. Invincible Oil Co.'s Crichton 2, 21-21n-10w, 325 ft N and 328 ft E of SW Cor. SE¼ of NE¼.

CALIFORNIA

Riverside County Field—L. R. Clark's No. 1, 5-3-2.

Torrance Field—C. C. M. O. Co.'s Del Amo 20, 16-4-14; 21, 16-4-14; 26, 16-4-14; 30, 16-4-14.

Rosecrans Field—Associated Oil Co.'s Higgins 2, 20-3-13; Hoge 1, 20-3-13.

Dominguez Field—Marland Oil Co.'s Dominguez 2, 3-4-13; 4, 3-4-12; 3, 3-4-13.

Ventura County Field—H. W. Schroeder's No. 1, 12-2-9.

Sunset Field—Midway Oil Co.'s No. 396, 35-12-24.

Kern County Field—Standard Oil Co.'s Kruse Comm. 1, 5-27-20.

Elk Hills Field—Associated Oil Co.'s No. 52, 26-30-24.

Midway Field—Midland Oilfields Co. Ltd.'s No. 3, 34-31-24.

Contra Costa County Fields—Wm. Edwards' No. 1, 31-2-2.

Colusa County Field—Prize Oil & Gas Co.'s No. 1, 17-14-1.

Sonoma County—Herbert N. Witt's No. 2, 5-6-.

Weekly Comparison of New Wells

Following is a condensed table giving a comparison of permits or locations made for new wells in Kansas, Oklahoma, Arkansas, Louisiana, Texas and California.

Number of New Wells for Week Ending

	May 31	June 7	June 14	June 21	June 28	July 5	July 11	July 18	July 25	July 1	Aug. 8	Aug. 15	Aug. 22	Aug. 29	Sept. 5
Kansas	27	18	...	...	17	9	8	12	13	..	9	12	16	10	19
Oklahoma	124	68	61	81	78	*70	59	111	75	62	60	53	80	68	51
Arkansas	39	36	22	33	24	...	18	34	43	..	13	8	11	2	19
Louisiana	13	13	11	14	13	4	8	7	9	10	3	4	8	7	9
Texas	162	117	104	145	132	134	65	90	131	103	102	75	89	82	85
California	...	...	...	...	...	27	22	24	27	22	24	22	25	16	18
Totals	365	215	198	273	264	244	180	278	298	197	211	174	229	185	201

TEXAS

Archer County—C. W. Beasley's W. P. Ferguson 3, S. P. Ry sur. blk 2, 300 ft W No. 1. Stidham, Thrasher & Humphreys' J. H. White 5, Amer Trib sur, blk 35, 300 ft N No. 3. Russell & Hardy's S. M. J. Benson 3, TE&L No. 1397 sur, 450 ft to S and 150 ft to W line. White Bros.' & Sessums' W. L. Andrews 1, R. Carson sur, blk 138, 150 ft to N and E lines. Murchison, Fain & Golding's H. Harmel 1, TE&L No. 2401 sur, 150 ft to N and W lines. Roy I. Carter's J. H. White 1, Amer Trib sur, blk 34, 450 ft to W and 150 ft to S line. J. C. Maxwell et al's J. N. Parkey 1, S. P. Ry sur, blk 1, 600 ft to S and W lines. Texhoma Oil & Refg. Co.'s Kemp & Kempner 7, S. P. Ry sur, blk 63, no map. Swastika Oil Synd.'s J. T. Richardson A-1, Anderson sur, blk 7, 533 ft to W and 150 ft to S line. Sun Oil Co.'s W. L. Andrews 1, R. Carson sur, blk 136, 150 ft to N and W lines. E. S. Carey's E. A. Hansler 1, Thos. McCoy sur, blk 16, 150 ft to N and W lines. Kentucky Oil Corp.'s W. F. Parrish B-2, H&TC Ry sur, sec 28, 150 ft to N and W lines. Gulf Prod. Co.'s T. B. Wilson 1, S. P. Ry sur, sec 2, 1320 ft to W and 150 ft to S line. Evangeline Pet. Co.'s Farmer 1, Wm. Baker sur, 150 ft to S and E lines. Shappell Oil Co.'s J. L. Jackson 15, Denton C S L No. 4 sur, blk 23, S of No. 13. Shamrock Oil Co.'s N. D. Goldsmith 11, G. P. Diggs sur, 150 ft to E and 1633 ft to N line.

Bexar County — Gas Ridge Dev. Co.'s K. Weilbacher 2, No. 5 sur, blk 5196, 160 ft to E and 500 ft to S line. Idaho Oil Co.'s W. B. Kilborn 8, J. T. White sur, 635 ft N No. 6; 9, 600 ft N No. 7; 10, 200 ft to N and 662 ft to E line. Alamo Gas Co.'s F. Voges 1, Gas Ridge sur, SE Cor. Helvetia Oil Co.'s S. Smith 22, No. 266-272 sur, SW Cor. White & Hampton's A. J. Swearingen 1, H. Peace sur, blk 8, 150 ft to S and W lines.

Brown County—Conway Bros. & Curry's G. W. Pickett 1, G. Logan sur, 315 ft to N line.

Baylor County—C. F. Selman's R. H. Shauver 1, H & T C Ry sur, sec 9, 660 ft to N and E lines.

Callahan County—T. I. Amphlett's S. S. Diller 1, Insane Asy sur, sec 54, 870 ft to N and 150 ft to E line. P. T. C. Oil Co.'s T. A. Wylie 1, Univ. Lands sur, sec 123, 150 ft to S and W lines. Texas Co.'s H. Wagley 1, TE&L No. 2996 sur, 150 ft to S and E lines; 2, 750 ft to E and 150 ft to E line. E. L. Bradley's O. Wagley 24, TE&L No. 2996 sur, 150 ft to N and 450 ft to W line.

Duval County—Progress Oil Co. Inc.'s Mrs. L. Singer 3, No. 241 sur, 750 ft to N and 550 ft to W line.

Glasscock County—M. McDonald's L. S. McDowell 1, T&P Ry sur, sec 35, blk 34, 1350 ft to E and 150 ft to S line.

Guadalupe County—J. K. Hughes Dev. Co.'s J. E. Allen 20, H. Cottle sur, SE No. 14.

Galveston County—Patton Oil Co.'s Cade & Co. 9, M. Dunman sur, 50 ft to W and 283 ft to S line. Gulf Prod. Co.'s G. E. Smith 2, M. Dunman sur, 1000 ft S No. 1.

Harris County—Gulf Prod. Co.'s Wright A-11, Wm. Scott sur, 600 ft to S and 60 ft to E line. Marsalis Bros.' T. W. Horn 1, Jas. Strange sur, 25 ft to N and 23 ft to E line. Inca Prod. Corp.'s Duke 2, Wm. Scott sur, no map. Burley Oil Co.'s G. H. Herman 31, Landslide sur, blk 9, 100 ft E No. 28. Webb Oil Co.'s D. B. Cherry 26, Jas. Strange sur, blk 4, 90 ft N No. 19. Southern Exploration Co.'s A. Wright 4, Jno. Scott sur, 450 ft N No. 3; 5, 50 ft No. 4.

Jefferson County—Houston Oil Co. of Texas' S. W. Pipkin 1, Wm. McFaddin sur, 472 ft to W and 187 ft to S line.

Liberty County—Dayton Oil Co.'s P. Kayser 2, H&TC Ry sur, sec 125, Center, 600 ft from S line. Republic Prod. Co.'s Dolbear 92, J. Devore sur, 1638 ft to N and 1062 ft to E line. Progress Oil Co. Inc.'s J. W. Clayton 2, D. Minchey sur, 55 ft to N and 1385 ft to W line.

Limestone County—W. T. Church's R. Kennedy 1, P. Varela sur, 150 ft to E and 600 ft to S line.

Matagorda County — Marland Oil Co. of Texas' M. J. Murphy 1, J. Dwyer sur, 1850 ft to E and 200 ft to N line.

Milam County—Henze-Triechel Oil & Gas Co.'s V. Bengston 2, 1050 ft S No. 1.

Navarro County—Simms Oil Co.'s C. H. Graves 1, Jno. White sur, no map. C. A. Tucker's R. R. Davis 2, 245 ft W No. 1; 4, 150 ft to N and W lines. Schnaufer & Lenoir's Dr. Edgar 1, M. Meazel sur, 150 ft to N and E lines. Tucker & Fox's R. R. Davis 7, Jno. White sur, 600 ft N No. 6, no map. Atlantic Oil Prod. Co.'s B. L. Swink 5, Jno. Choate sur, 750 ft to S and 150 ft to E line.

Morris County—Humble Oil & Ref. Co.'s Brown A-5, Geo. Dyer sur, 2500 ft to S and 2230 ft to E line.

Parker County—St. Mary's Oil & Gas Co.'s A. S. Carter 11, Insane Asy sur, sec 70, 25 ft E No. 10.

Palo Pinto County—Kerman Oil Co.'s T. H. Kerman 1, blk 1, sec 60, 150 ft to N and W lines.

Panola County—H. C. Morris' J. Roberson 2, Thos. Anderson sur, 727 ft to N and 206 ft to E line.

Refugio County — Pratt-Hewitt Oil Corp.'s Mrs. W. J. J. Heard 2, No. 1334 sur, NW Cor; Rooke 6, 150 ft to N and 1200 ft to E line.

Runnels County—Russell Prod. Co.'s R. R. Russell 2, Jas. Hughes No. 227 sur, 638 ft to N and 4832 ft to E line.

Stephens County—Critton Bros. & Lacey's S. C. Cobb 8, T. & P. Ry sur, sec 16, 560 ft E No. 2. Barnhard & Barker's O. C. McClure 1, T. & P. Ry sur, sec 26, 300 ft to S and E lines. B. F. Kleinfelder's Conner Bros. 1, Insane Asy sur, sec 24, 250 ft to S and E lines. McLester & Weaver's E. L. Roberson 1, T. & P. Ry sur, sec. 89, 250 ft to S and W lines.

Shackelford County—Mrs. W. S. Leslie et al's Mrs. G. P. Jones 1, Insane Asy sur, sec 72, 450 ft to N and W lines. Shamrock Oil Co.'s J. W. Macon 12, Insane Asy sur, sec 69, 300 ft No. 4.

Wichita County—United Central Oil Corp.'s S. H. McCarty 11, S. O. Fowler sur, 281 ft S No. 9; 12, 281 ft S No. 11. E. V. Wilson's River Bed 1, East of W. R. Eaves sur, 450 ft to N and 150 ft to W line. Commercial Pet. Co.'s J. W. Ferguson 1, J. Robinson sur, 150 ft to N and 450 ft to E line; 2, 300 ft W No. 1. Clopton & Stone's M. J. Bashara 1, SA& MG Ry sur, sec 1, 150 ft to S and W lines. F. C. Baldwin's J. W. Kennedy 1, GC&SF Ry sur, blk 6, 150 ft to N and 750 ft to W line. F. C. Baldwin's J. W. Kennedy 1, GC&SF Ry sur, blk 6, 150 ft to N and 750 ft to W line. Dulaney, Stockton & Baker's W. D. McClure 1, GC&SF Ry sur, sec 5, no lcn; 2, 180 ft to S and 600 ft to E line.

Wharton County—Humble Oil & Ref. Co.'s F. Chudalla A-1, E. Hunter sur, 250 ft to W and 50 ft to S line.

Wilbarger County—E. J. Goza's Harrold Pet. 1, H&TC Ry sur, sec 25, 150 ft to S and E lines.

Webb County—Mills Bennett's E. Garcia 7, No. 2363 sur, blk 68, 450 ft to W and 150 ft to S line; 8, 300 ft E No. 7; 9, 450 ft to N and 150 ft to W line. Alonzo Jr. Oil Producer's E. Garcia 1, No. 605 sur, 300 ft W No. 6.

Wilson County—Arnett Bros.' J. E. Espey 1, S. & J. Arocha sur, NE Cor. Malone & Wildman's Green 1, Flores No. 20 sur, 200 ft to S line.

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FT. WORTH SHREVEPORT

Directors to Decide On Next Meeting of A. P. I.

New York, N. Y., Sept. 8.—A meeting of the board of directors of the American Petroleum Institute probably will be called shortly to determine the next meeting place for the organization. This meeting may be held at Colorado Springs, Colorado.

While nothing official has been given out it is understood that both Kansas City and Chicago are contenders for the 1924 convention of the institute.

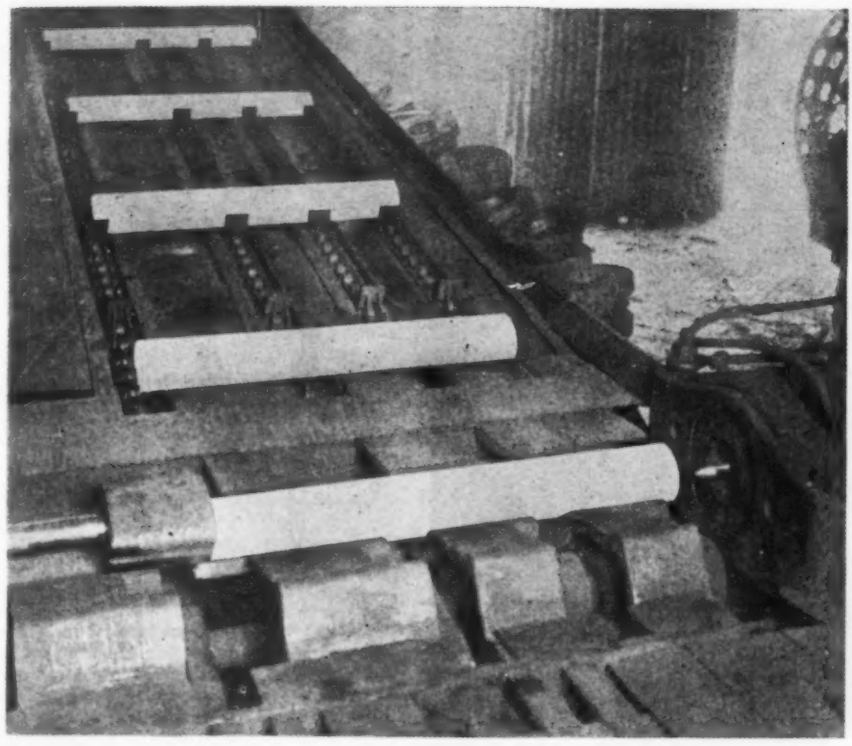


Fig. 11

History of Pipe Has Valuable Side Lights

(Continued from page 37)

complete paper can be found in the Trans. Am. Soc. Mech. Eng. of 1906. This paper is well worth studying by anyone having responsibility for selecting casing. Stewart derived two formulas by means of which the probable collapsing pressure of lapwelded steel tubes may be computed, when the outside diameter and the wall thickness is given.

These formulas are as follows:

$$P = 86{,}670 \frac{t}{D} - 1386 \qquad (1)$$

$$P = 50{,}210{,}000 \left(\frac{t}{D}\right) 3 \qquad (2)$$

where:

P = Collapsing pressure in pounds per square inch.
D = Outside diameter of the tube in inches.
t = Thickness of the wall in inches.

Formula No. 1 is for values of $\frac{t}{D}$ greater than .023, while formula No. 2 is for values less than these.

In order to calculate the thickness of a certain size casing directly, when the depth of the well is known and a certain factor of safety assumed, the writer has transposed the above formulas into the following more convenient form:

$$t = \tfrac{1}{2} D \left(\frac{S \times L + 3198}{100{,}000}\right) \qquad (3)$$

$$t = .002\, D \sqrt[3]{S \times L} \qquad (4)$$

Where:

D = Outside diameter of the tube in inches.
t = Thickness of the wall in inches.
S = Factor of safety.
L = Depth of the well in feet.

Formula No. 3 is for values of S x L greater than 1339, while Formula No. 4 is for values less than these.

In the above formulas 1 foot of water column is taken equivalent to .434 pounds per square inch. Where muddy water is standing behind a string of casing, the factor of safety should be increased in the same proportion as the gravity of the mud over that of clean water.

Very little is known about the resistance against collapsing of seamless steel tubes. In the absence of more definite information, the A. P. I. Committee for Standardization of Casing has assumed that seamless pipe is about 30% stronger against collapsing than lapwelded pipe of the same dimensions. This corresponds very closely with information received by the writer from an engineer abroad. Collapsing tests made on seamless pipe of 11" O. D. and .319" thick, showed an average collapsing pressure of 1470 pounds per square inch. The average collapsing pressure of seamless pipe of 11" O. D. and .283" wall thickness was 1178 pounds per square inch, which shows that the 30% rule is very nearly correct for the above sizes. Care should be exercised, however, in applying this rule to larger sizes or to pipe with thin walls.

It is to be expected that for seamless pipe of larger diameter and a relatively thinner wall, the increase of strength over lapwelded pipe will be less than 30% and for pipe of smaller diameter and relatively thicker wall, the increase in strength will be more than that.

In other words for relatively thin seamless and lapwelded tubes the relation of their collapsing pressures is as the elastic modulus of the metal of which the tubes are made, all other factors being the same. A similar theory applies to long columns of the same dimensions, but made of different material. The supporting strength of such columns is as their modulus of elasticity. Curves have been published by the National Tube Co. (Nat. Tube Co., Pipe Stds. 1917, page 231), which show what may be expected from the use of high strength steel.

Seamless pipe made of .36 carbon steel shows about 20% increase in strength over lapwelded pipe where $\frac{t}{D} = .02$ and an increase of about 60% where $\frac{t}{D} = .10$. These figures are the-

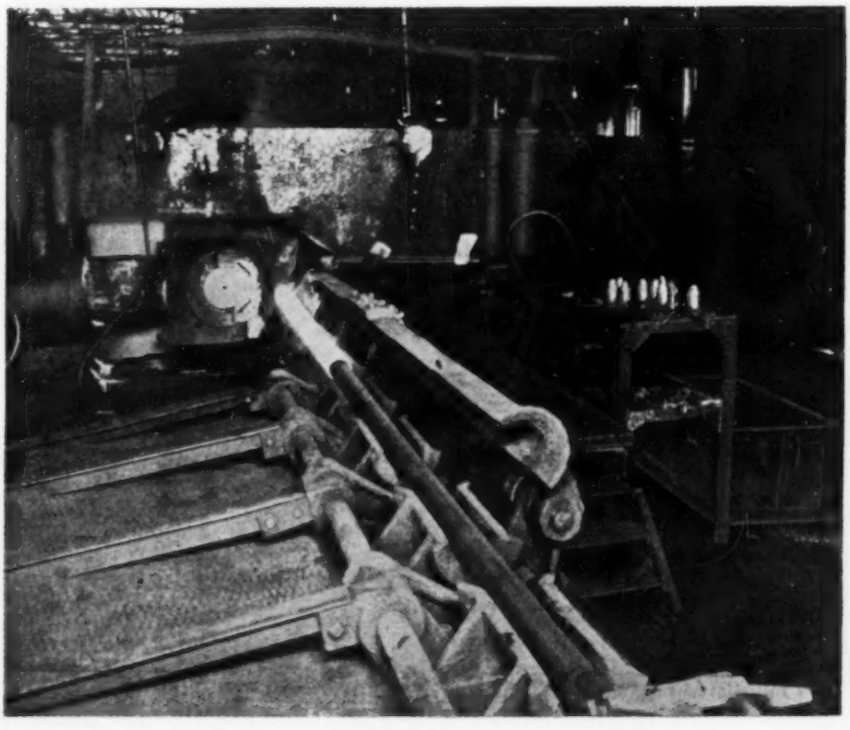


Fig. 12

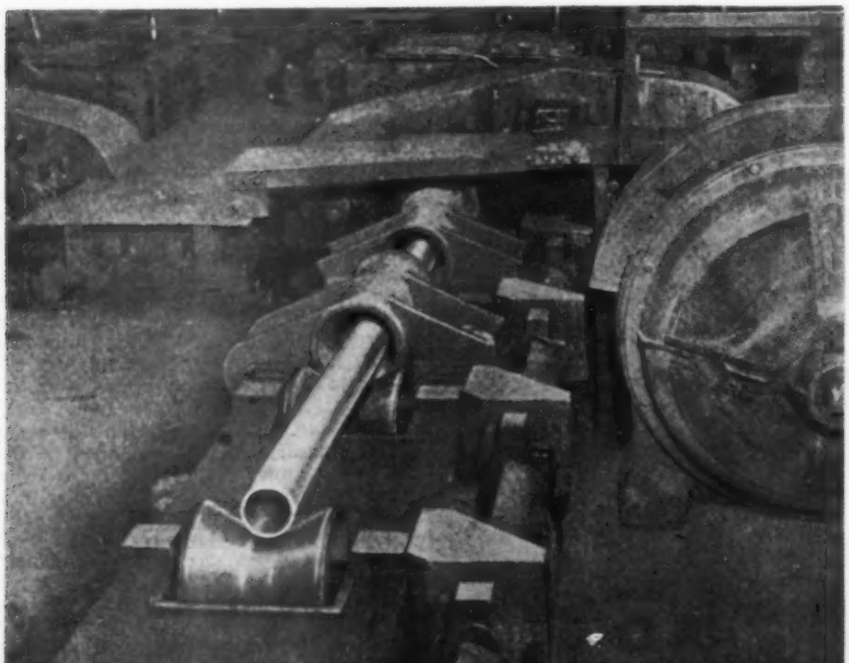


Fig. 14

oretical. What the increase in strength will be for seamless pipe of .50% carbon is problematical and can only be ascertained by actual test. At any rate we do know that seamless casing is stronger than lapwelded pipe and for that reason it is to be recommended

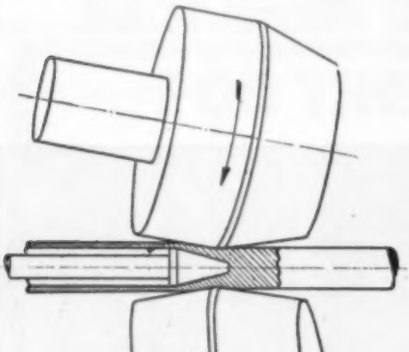


Fig. 13

for use in deep wells. A good weld in lapwelded pipe, according to Stewart is not a source of weakness, but often pipe is improperly welded and it fails when subjected to internal or external pressure, in many cases entailing a loss of thousands of dollars. In the case of seamless pipe no danger is to be expected from that source, because there is no weld. It is gratifying to note that more attention is being paid lately to the manufacture of better casing. Couplings instead of being made out of wrought iron are now manufactured from heat-treated seamless steel and form the strongest part in a string of casing. The threads are either electro galvanized, copperized or treated with a zinc dust lubricant, to prevent burning or galling. More attention is paid to cut a better thread and to have the taper of the threads in the coupling and on the pipe as nearly alike as possible. The exactness of the taper is especially in the case of seamless pipe of vital importance. The writer has examined a string of casing 2800 feet long where 80% of the joints burned, despite the fact that the threads were properly cleaned and lubricated. Upon measuring the threads with a micrometer it was found that the burning was due to ⅛" difference in taper between the threads of the coupling and the pipe. Since these threads were cut on the lathe, the writer does not believe that anything was wrong with the pitch of the threads and that the failure of the joints was due solely to the above mentioned defect in the taper. After this pipe was re-threaded and provided with new couplings, no further trouble was experienced from galling.

Another string of seamless casing, with proper cut threads, was run and pulled several times without injury to the threads.

The following may be mentioned about the taper of the threads. The A. P. I. Casing Committee has proposed to use 10 threads per inch and ⅜" taper per foot for casing up to 8⅝" O. D. and 8 threads per inch and ¾" taper per foot for sizes larger than these. It is evident that a joint having only 8 threads per inch is weaker than a similar joint having 10 threads owing to the deeper cut for the first kind of a joint. Where large size casing is used of sufficient wall thickness and where such casing is set at a shallow depth, the 8-thread pipe is more convenient to handle than pipe having 10 threads to the inch.

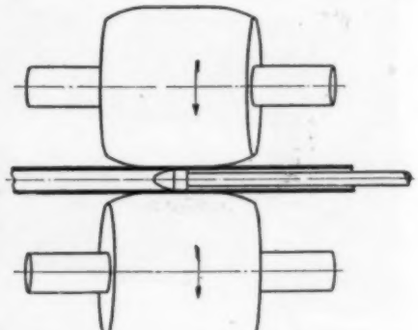


Fig. 15

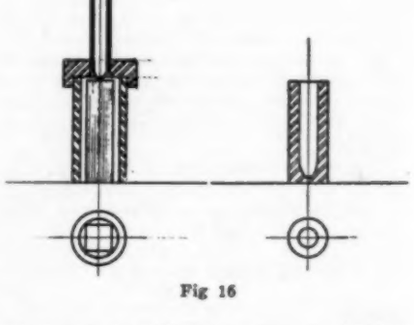


Fig 16

Eight-thread pipe seems to become more or less popular again, even on sizes as small as 6¼" and 6⅝" Cal. D. B. X. The breaking load, due to the pipe breaking under the treads as well as the "pulling out" load, due to con-

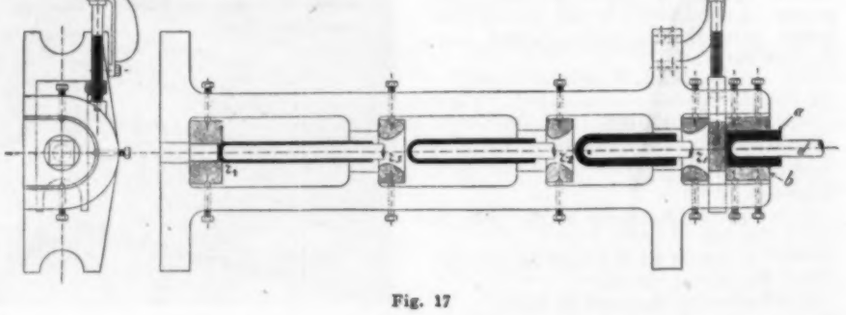


Fig. 17

Gasoline Engine Makes Hole Economically

Oklahoma operator proves big fuel saving and steam engine efficiency to be had with gasoline rig

By W. Lee Sloan

An operating cost record shows that by using a gasoline rig, C. H. Hartman of Sapulpa, Oklahoma, is effecting a big saving in drilling in the Trimble-Lawnwood town lot area. A 65 H.P. gasoline engine is furnishing power for a 2,000 foot test to the Wilcox sand.

The driller on the test had kept a record of gasoline and lubricating oil used and in striking a general average of cost, the figures show that he has used 50 gallons of gasoline per day. This gasoline is being furnished at a contract price of 13 cents per gallon, making a total cost of running the engine $6.50 per day. Comparing the performance of this with a usual standard rig and boiler equipment, this is a saving of approximately $19.50 per day, assuming that it will require $25.00 worth of oil to run a 40 H.P. boiler.

At a total depth of 1030 feet, the performance sheet shows that there has been a total expenditure for gasoline of $102.45. A total of 12 gallons of lubricating oil has been used in making this depth of hole, or approximately 2 quarts per day.

The engine is equipped with a self starer and no time is lost in getting the rig in motion. This in itself is a saving feature as it generally takes at least two barrels of oil in heating a boiler to the point where it carries enough steam for operating the drilling rig. In the event the rig is shut down for some reason, the gasoline engine is shut off and fuel is saved. A control on the derrick floor is used for starting and stopping the engine.

A close observance of the rig shown in the accompanying illustration will show that the engine is being used in connection with a National rig, however, the driller expressed the fact that it will operate just as successfully on a standard rig, in fact the size of pulleys and band wheel is the same as is used on a rig of this kind.

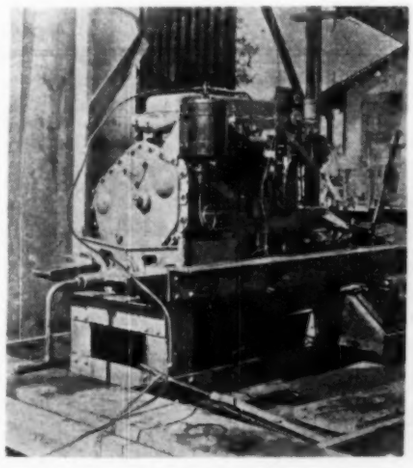
At this time, the well is being bailed out and the gasoline engine is functioning perfectly. On the twelfth consecutive day of drilling the engine had had a constant run of 24 full hours each day, never being shut down on account of heat or water troubles.

In comparing this gasoline engine with an automobile, a fair idea of the size and ability of it can be gotten by referring to the dimensions of a Pierce Arrow, Packard or other motor cars of this type, which are generally equipped with a 70 H.P. motor.

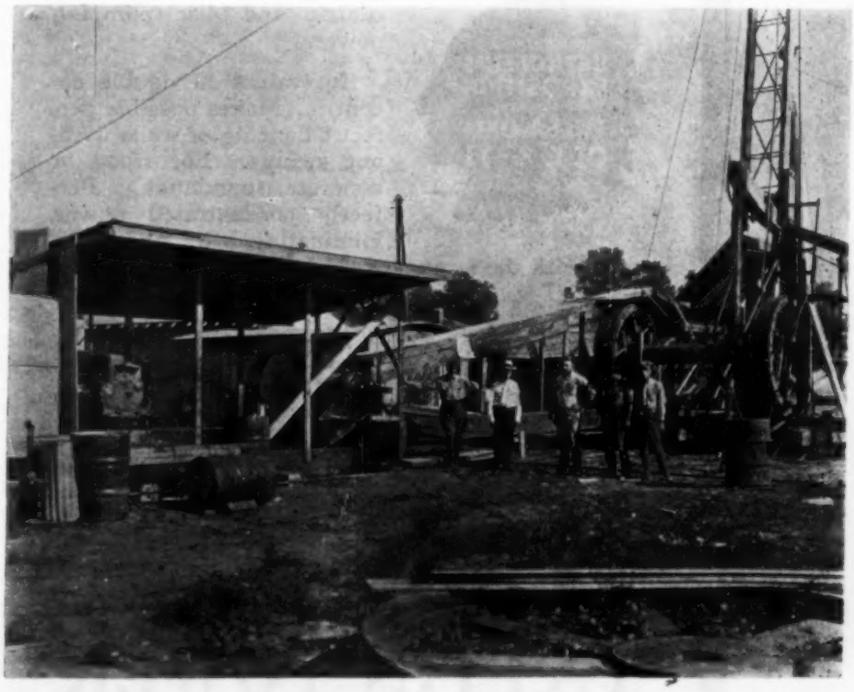
In the event a gasoline engine should prove a success in making deep tests in the Mid-Continent fields, the fuel problems of wild cat wells would almost be solved. The cost of transporting fuel oil to a wild cat location would cost almost as much as the gasoline used as fuel. A tank of fuel large enough to run a drilling rig for one day if filled with gasoline would be enough fuel to run this engine for 10 days, thereby saving the cost of transportation of the fuel oil.

A twelve inch pulley is used on the main drive shaft of the engine, running the belting to a 48-inch pulley on the main control shaft, on which is also installed the cut off clutch from the engine to the rig. Although not shown in the picture, the water pump for the engine is running from the protruding end of the middle shaft. This pump forces a continual flow of water through the engine into a 50 gallon tank in the rear and the water is again used for cooling purposes.

The belt running from the main shaft to the band wheel is efficiently housed to insure safety. A 30-to-1 reduction is attained by this gasoline engine method



Gasoline Engine used for Power Unit on Oklahoma well



Showing rig being operated by gasoline rig in the Trimble-Lawnwood town lot area of Oklahoma

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traction of the threaded end of the pipe, is less for a joint having 8 threads, than the same joint having 10 threads per inch. The operator should therefore always bear in mind that the convenience in making up 8-thread casing is bought at the expense of the strength of the joint. Especially the lighter weights in the above mentioned sizes have too thin a wall to allow the use of 8 threads and it is extremely unsafe to use such casing for deeper wells.

Some pipe is being marketed now having 8 threads per inch and ⅜" taper. This is very unfortunate, because such pipe may be easily mixed with pipe that has the same number of threads and ¾" taper. This difference cannot easily be detected with the eye and the consumer is almost compelled to calliper the threads on each joint of casing before it is put into the well; a pipe with another taper than that specified may easily slip in which may happen in the field or even at the mill. Everybody can imagine what can happen to a string of casing that has threads with a different taper.

The only thing in favor of the ⅜" taper would be that less metal is cut away for the threads than would be the case if a ¾" taper was used. This in turn results that a joint with a ⅜" taper has a greater pulling out strength because more metal is left to resist contraction of the end of the pipe.

It is to be hoped, that after the new A. P. I. Standard Casing is once adopted, that it shall be strictly adhered to, especially with regard to the number of threads and the taper.

while the usual reduction on a standard rig is approximately 4-to-1.

There is nothing different in the construction of the engine and no special parts are used, other than the usual types of gasoline engine. It is equipped with Leese-Neville starter and generator, Stromberg carburetor, Brown-Lipe gears and a Splitdorf magneto. The engine is an assembled product of the Wellman-Seaver-Morgan company of Cleveland, Ohio.

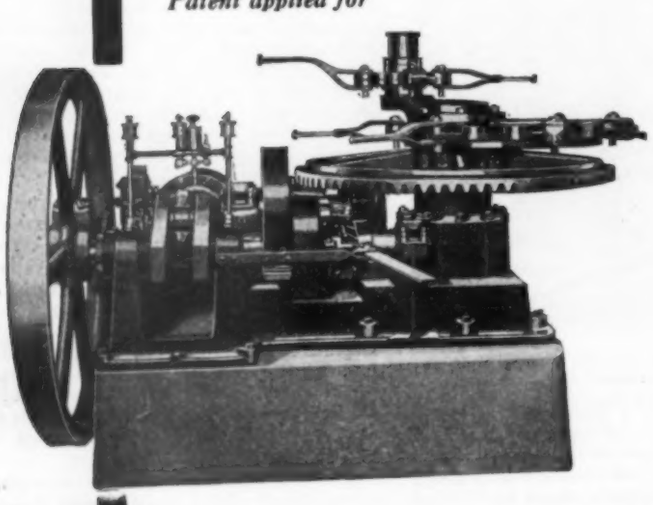
Being equipped with its own generator, the entire lighting system around the rig runs from the engine. Two large spot lights are used in the engine house to insure an efficient light in case a repair is necessary.

Although adverse opinion has been expressed as to the depth ability of the gasoline engine rig, the driller claims that it will successfully drill a 4000-foot test without any trouble. A recent performance of a like engine in Ohio records a 3700 foot test.

As the engine is of the same design as any automobile engine now in use, the component parts can be purchased at automotive supply stores and these parts can be installed by anyone familiar with automobile or truck. The total weight of the engine is 2,600 pounds which means that it can be handled as easily if not easier, than a boiler.

The engine is the four cycle kind with a standard control. It makes 1400 R. P. M.

Patent applied for



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"PATTIN POWER"

Marland Organizes New Operating Subsidiary

Ponca City, Okla., Sept. 8.—The Marland Oil Company of Oklahoma has just been granted a charter as a new corporation in the state. The new company is similar to the California, Colorado and Texas Marland companies which are all subsidiaries to the Marland Oil Company of Delaware as the parent company.

The Marland Oil Company of Oklahoma will take over all of the producing properties and leases in Oklahoma and will also carry on operations in the state of Kansas.

J. K. Cleary, vice president of the parent company, has been made president of the new corporation. C. F. Martin, formerly associated with the Royalty Trust Company has been made vice president. Other directors of the Marland Oil Company of Oklahoma are: A. S. Ritchie of the production department, F. L. Aurin, chief geologist and J. R. McGinley of the Tulsa office of the Marland companies.

Southwest Texas Wildcat Strikes Dry Gas Flow

Corpus Christi, Texas, Sept. 8.—The Damitza Oil & Gas Development Company's wildcat test on the Tom Welder land, located about three miles south of the town of Beeville, Bee county, is reported to have showed about five million cubic feet of dry gas when five feet of sand was drilled through at 1520 feet, and is now drilling ahead below 1540 feet. This test is on a block of about 4000 acres and is contracted for 3000 feet.

Storage Being Added In North Texas District

Wichita Falls, Texas, Sept. 8.—Five new 55,000-barrel steel storage tanks have been recently completed or ordered for immediate construction in the Wichita-Archer county section of the North Texas district, while another 55,000-barrel tank has been ordered for the Panhandle district by W. W. Silk and Priddy interests. The American Refining Company is erecting two additional tanks on its refinery tank farm near Wichita Falls, while George Church and associates are completing a new tank near Wichita Falls. The Riner-Bailey interests are completing a new tank on their lease in the Wilmot-Wilson field in Archer county, while the Shamrock Oil Company just recently added a new tank to store its surplus crude in the Swastika pool.

Except for the above mentioned new tankage, the North Texas district oil fields have registered a shrinkage in storage facilities during the past two years, owing to a number of 55's being cut down and shipped to nearby fields and to California. The dismantling of several refineries at Burkburnett accounted for a part of this shrinkage, while some of the major companies have also reduced their number of tanks.

WILDCATS FROM ALL SECTIONS

Pan-Tex Line to Amarillo Refinery Assures Market for Panhandle Oil

Amarillo, Texas, September 8.—Oil development in the Panhandle district of Texas can continue until present production is more than doubled with full assurance that a market is available for all the crude as result of the Pan-Tex Pipe Line Company placing its new six-inch carrier in operation on September 5. This line connects the Carson-Hutchinson County oil field with the Amarillo Refining Company's 2000 barrel daily capacity skimming plant at Amarillo, a distance of about 43 miles, and has already begun moving large stocks of crude held in the field by major companies and independent operators. The Pan-Tex Company's line has a carrying capacity that will meet the requirements of the field for more than a year, even if the present large volume of drilling continues. Officials of the Amarillo Refining Company have agreed to increase the output of their plant if the crude is made available, as the entire fuel production can be sold to railroads serving the city and the gasoline and kerosene is marketed locally and at nearby points. Daily production in the Panhandle oil field now amounts to 1100 barrels, with three new wells in process of completion and a half dozen more nearing the pay.

The market for Panhandle crude created by the Pan-Tex Pipe Line Company in conjunction with the Amarillo Refining Company will serve to stimulate development of present proven leases in the field, as well as wildcatting, and at the same time it will forestall the entrance of any of the major pipe line companies into the field with a line. The major companies are making use of this outlet for their present production, and will be content to market their oil with independent buyers until production can be increased to a level that will justify the great expense necessary to build a line to the field from Oklahoma or Wichita County, Texas, fields.

Since the Panhandle crude has a paraffin base, and congeals when exposed to air while the temperature is 50 degrees or below, the operation of the Pan-Tex Company's line will be watched with interest by all the major pipe line companies when cold weather sets in. Weather conditions in the Panhandle district vary to the extreme, and zero temperatures are frequent occurences during the winter months. Only one pump station is used on the Pan-Tex Company's line, and it is located in the southern part of Hutchinson County. If any difficulties are experienced by the Pan-Tex Company in handling this oil during the winter months, the officials of major pipe line companies will be eager to study same in order to be prepared in the event their respective companies should decide to enter the field with a line later on.

The Prairie Oil and Gas Company joined the ranks of the Panhandle oil producers last week when its Maggie M. Weatherly-Deahl in the lower part of Hutchinson County showed about 1800 feet of oil in the hole with light gas pressure after drilling sandy lime pay at 3112-16 feet. This well is located within the so called proven area, and in section 23, Arnold and Barrett survey, block "Y." It is reported to have shown some oil from an upper pay at 3054 feet, and filled 1200 feet of oil in the hole within 35 minutes after drilling the second pay. Preparations are being made to swab and test the present pay, and drill deeper if it does not show up satisfactorily. Prairie made a second location last week about one mile northwest of the above producer, and it is to be on the Mrs. D. Shaw land 2360 feet north and 2310 feet west of the southeast corner of section 27, Arnold and Barrett survey, block "Y."

A second location made in Hutchinson County last week is to be drilled with cable tools by the Douglas Oil Company on the J. A. Whittenberg ranch 100 feet each way from the northeast corner of section 21, H. & T. C. survey, block 47, and near the Canadian river. Gulf's wildcat test on the Whittenburg ranch, section 2, H. & O. B. Ry. survey, block X-02 and north of the river, is reported to have swabbed 60 barrels of oil on a test made last week from broken pay at 2998-3046 feet. It will probably be drilled deeper before connecting to pump. A bradenhead has been set to obtain gas for operating the boiler, and to pump Gulf's old pumper on the Dial ranch.

The Skelly Oil Company has resumed drilling on its first test on the S. B. Burnett ranch in Carson County after testing out a good oil pay at 2927-34 feet, which filled the hole with about 2000 feet of oil and results in an occasional flow by heads. Drilling is now underway below 2950 feet, and a more prolific pay is expected just below 3000 feet. This well is located in the northeast corner of section 93, block 5, and between pumping wells. It is on a 160-acre lease obtained several years ago from the W. W. Silk interests. Marland Oil Company is starting a northeast offset to the Skelly Oil Company's new producer.

Hard semi-granite formations being drilled by The Texas Company's test on Mary C. Burnett tract in the Burnett ranch below 2800 feet materially reduces the possibilities of the oil producing area being extended another mile to the southeast, and the outcome of this well is being watched with interest. It is located in the northwest corner of the northeast quarter of section 90, block 5, and slightly more than one mile from The Texas Company's Burnett producer in section 108. The Mary C. Burnett test encountered heavy gas flows at 2140 to 2600 feet, and the gas production increased to 69 million feet at 2670 feet. It is now drilling at 2870 feet. In the event this test should encounter solid granite, or fail to make an oil producer, a number of leases partly completed for tracts of land further east on the Burnett ranch would be in doubtful territory. The completion of these leases can not be made until one of the trustees of the Burnett Estate recovers from a long spell of sickness, or a new trustee is appointed to sign the documents, thereby placing them into effect.

Wildcat Work Revived Near Mounds, Oklahoma

Mounds, Okla., Sept. 10.—Prompted by the recent successful development in the townsite here, activity has again been revived in other geological structures and domes in the vicinity of this city.

One mile southwest of here, R. B. Hartman Sons have a well drilling to the Wilcox sand on a dome heretofore outlined by geologists as a very likely producing area. Although the well is surrounded by dry holes on all sides, these tests have all been made to the

Wildcat well of R. B. Hartman Sons near Mounds, Oklahoma

Bartlesville sand which was thought to be at a depth of from 1700 to 1800 feet. The Wilcox sand is thought to be below the 2200 foot horizon.

The subsurface map of the dome shows it to cover approximately 160 acres, a usual coverage for Wilcox sand pools in Oklahoma. To the east of the new location there is a 35 foot dip from the main apex of the dome and on this apex the well will be drilled.

The owners of this new well have 120 acres under lease and the well which is located at the center of the southwest of section 7-16-12 east is in the center of this block.

One mile north of this location, Tom Hancock has recently completed a well good for 1000 barrels per day in the Dutcher sand at 2000 feet which might prove that the Dutcher sand on the dome is some 200 feet below the depth of the deepest test made.

Coastal Wildcats

COMPLETIONS

Company, Well, Location—	Initial Production Bbls.	Depth
Angelina County—		
Paggi Bros.' Henderson-Hunt 1 about 12 mi E of Lufkin	*	660
Brazos County—		
Brazos-Bryan Oil Synd.'s Committello 2	*	2915
Chambers County—		
Kirby Pet. Co. and Mills Bennett's Amanda-McKinney 1, Barbers Hill	*	4200
Fort Bend County—		
Gulf Prod. Co.'s Wheat 7	*	4030
Rycade Oil Corp.'s B. Wisdom 1, 7 miles SE of Damon Mound	*	769
Harris County—		
Giesecke & Davis' C. E. Malone 1, about ½ mile E of Little York	*	1700
Jefferson County—		
Houston Oil Co.'s Pipkin & Davis 9	*	2610
Staiti 4	*	3120
San Jacinto County—		
B. E. Jones et al's Bledsoe 1	*	2535

DRILLING REPORT

AUSTIN COUNTY—W. W. Johnson's San Felipe De Austin Hein 1, Townsite outlot 16, sd at 2108 ft, waiting on water.

BRAZORIA COUNTY—Associated Oil Co.'s Perry 1, 2 miles east of Clute, cleaning out hole, td 4351 ft. Sinclair Oil & Gas Co.'s Perry 1, at Stratton Ridge, dr at 2530 ft. Sinclair-Gulf Cave 1, at Damon Mound, dr at 3983 ft. Quick Dev. Synd.'s Boggs 1, at Stratton Ridge, sd at 4350 ft. D. F. Bryan Prod. Co.'s Chester Oil Co. Bryan 1, at Bryan Heights, standing at 2911 ft.

FORT BEND COUNTY — Pathfinder Oil Co.'s Davis Trustee 1, 7 miles northeast of Damon Mound, sd at 1000 ft; 2, sd at 600 ft; 4, rigging up. Rycade Oil Corp.'s Nash 1, about 6½ miles southeast of Damon Mound, lcn.

GONZALES COUNTY—Hindman & Mitchell's Morgan 1, 11 miles southwest of Gonzales, sd at 1640 ft, waiting on fuel. Bryan & James' Billings 1, southeast corner of the Peter Winn league near Smiley, sd at 985 ft.

HARRIS COUNTY — Texas Exploration Co.'s Warren 20, at Hockley, dr at 500 ft. The Dome Dev. & Pet. Co.'s Chachere 1, at Piney Point, sd below 700 ft; Schneider 1, preparing to resume dr around 500 ft. Atlantic Oil Producing Co.'s Ross 1, ½ mile southwest of Pierce Junction, setting liner preparatory to bailing at 2958 ft.

JACKSON COUNTY — Jackson County Oil Synd.'s Grushell 3, about 7 miles northeast of Edna, sd, waiting on fuel at about 650 ft; Grushell 2, cased off water and waiting on cement to set around 2700 ft. Vanderbilt Petroleum Co.'s Seliner 1, near Vanderbilt, dr below 2325 ft.

JEFFERSON COUNTY—Houston Oil Co. of Texas' Gulf-Pipkin 1, at Big Hill, dr at 2000 ft; Sun-Pipkin 1, set surface casing.

Central West Texas Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Reagan County—		
Wm. Dunning & Humble Oil & Ref. Co.'s Sawyer Cattle Co. 1	*	3501

DRILLING REPORT

BROWN COUNTY—M. T. Anderson et al's Wheeler 1, dr 2355 ft. Chas. S. Avery et al's Cox 3, sd 2505 ft. Davis & Swartz's Bewton 1, rig. Gilman et al's Newton 5, dr 1145 ft. Honea et al's E. DeBusk 2, sd 1900 ft. Leonard et al's Prather 2, sd 2370 ft. McMurray et al's Newton 2, machine. Maher Bros.' Bohara 1, sd 2260 ft. Moore & Wilson's Westerman 1, dr 1290 ft. O'Donnell et al's Chambers 1, rig. Omaha Southern Oil Co.'s G. B. Gaines 2, sd 1840 ft.

CALLAHAN COUNTY—Blair et al's Cathey 5, dr 945 ft. Tom Bryant et al's R. B. Forbes 1, sd 3100 ft. Byron-Union Oil Co.'s Hennessey 1, sd 4045 ft. Chas. Dutton et al's Carter 1, sd 890 ft; Harwell 1, sd 800 ft; Cathey 5, timbers; Cathey 6 and 7, rigs. Dudley Oil & Gas Co.'s Hugh Moore 1, trying to pump 1834-53 ft. Hickey et al's E. L. Findley 2-A, rig. Junior Oil Co.'s A. L. Huntington 1, dr 1845 ft. Kellogg Drilling Co.'s Snyder 1, ur 1410 ft. McMath et al's Isenhower 1, spd and sd. Prewitt et al's Bailey 1, dr 1640 ft; Betcher 1, missed Dudley pay, dr 1895 ft; Crane 1, dr 770 ft; White 1, dr 1215 ft; Windham 1, dr 870 ft. Shackelford et al's Chas. Allen 1, dr 1695 ft. The Texas Co.'s Isenhower 1, sd 2025 ft. Texas

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Pacific Coal & Oil Co.'s N. J. Biggerstaff 1, set 5 3-16 cas 3230 ft.

PALO PINTO COUNTY—Broderick & Calvert's H. L. Mosley 1, dr 925 ft. J. D. Cranford et al's L. Smith 1, spd and sd. Morris Frazer et al's O. W. Pollard 1, (Sec. 43, T&P Blk. 3) dr 870 ft. Guaranty Royalty Co.'s H. L. Mosely 1, dr 2480 ft. McKinney et al's Marsden 1, sd 465 ft. S. W. Manning et al's R. Hitson 1, sd 3640 ft. Phillips et al's Stringer 1, dr 600 ft. Phillips & Graham's J. A. Caudill 1, sd 3800 ft. E. B. Ritchie & Ed. S. Britton's Strawn Coal Co. Fee 2, dr 755 ft. B. H. Talbert et al's Slimp 1, dr 605 ft.

SOMERVELL COUNTY—Glen Rose Oil & Gas Co. et al's J. R. Buzan 1, located 4½ miles SW of Glen Rose, sd for cas 410 ft.

BORDEN COUNTY — Reeves-Parkhurst et al's A. J. Long 1, sd for line 3000 ft.

BREWSTER COUNTY—Tesnus Oil Corporation's A. S. Gage 1, section 1, blk 348, ur 6¼-inch cas with show oil and gas 2555 ft. Arco Dev. Co.'s H. L. Kokernot 1, sd 3775 ft. Brewster Oil Co.'s W. H. Kokernot 1, fsh cas 2535 ft. Portland Oil & Gas Co.'s State 1, sd 3050 ft. Nine Points Oil Co.'s Peralto et al 1, sd 1570 ft.

COKE COUNTY—Ace Oil Co.'s W. C. Locke 1, spd and sd. Sward & Laller's J. R. Mims 1, lcn. Mexia-Equitable Oil Co.'s W. J. H. Hodges 1, sd 2505 ft.

CONCHO COUNTY — Dome Production Co.'s Mrs. C. M. Hartgrove 1, sd after shot, td 1430 ft. Schultz Oil Co.'s Schultz 1, sd 3220 ft.

CRANE COUNTY — Texas Development Co.'s Jack Cowden 1, dr 1565 ft.

CROCKETT COUNTY — Crockett Drilling Synd.'s Robt. Massey 1, fsh tools 1640 ft; J. M. Shannon 2, lcn. World Co.'s L. P. Powell 1, fsh bit 845 ft. W. E. Ball et al's J. S. Todd 1, lcn.

CULBERSON COUNTY — David Flood et al's McAlpine et al 2, lcn. J. D. Wesner et al's Mack Sayles 1, sd 3105 ft.

DAWSON COUNTY — Lamesa Oil Co.'s John Burns 1, sd 2150 ft.

ECTOR COUNTY—Farmers Oil Co.'s Andy Newham 2, sd 1400 ft.

FISHER COUNTY—Pyron Oil Co.'s J. S. McCall 1, sd 3125 ft.

GARZA COUNTY—B. V. Blackwell et al's J. M. Boren 1, sd 1405 ft. Union Pet. Corp.'s C. C. Connell 1, sd 1625 ft.

GLASSCOCK COUNTY — Cushing Ranch Drilling Assn's W. H. Sparkman 1, sd 1950 ft. A. C. Varner et al's C. L. Brunson 1, dr 3435 ft. General Oil Co.'s L. S. McDowell 3, dr 750 ft.

HUDSPETH COUNTY—Boole Oil Assn.'s Gardner et al 1, sd 1540 ft. Wm. Loftus et al's Minnie Veal 1, sd 1300 ft. Hueco Basin Oil Co.'s University 1, sd 1560 ft.

HOWARD COUNTY—Big Springs Oil Co.'s Mable O. Quinn 1, sd 3640 ft.

IRION COUNTY—Orient il Co.'s J. D. Sugg 1, (star machine) dr 460 ft.

JONES COUNTY—Anson Oil & Dev. Co.'s C. B. Brown 1, sd 1855 ft. C-H Oil & Dev. Co.'s J. A. Cullom 1, sd 3500 ft.

LOVING COUNTY—J. J. Wheat et al's N. E. Chapman 1, sd for water 400 ft. Ramsey Prod. Co.'s Russell 1, sd 4485 ft; Russell 2, sd 810 ft.

MITCHELL COUNTY — The California Co.'s E. Morrison (Lease 5) 10, swabbing to test oil pay at 2960-70 ft; Morrison 11, testing oil pay 3040 ft; W. H. Abrams (T&P) 6, dr 2860 ft. Sloan Oil Co.'s H. C. Miller 2, sd 1265 ft. Chal Daniel et al's W. D. Kynard 1, rig. M. E. Eddleman et al's A. C. Gist 1, setting cas 1985 ft. Morrison-Rowe Lease Synd.'s W. D. Kynard 1, sd for water 535 ft. Colorado-Texas Pet. Co.'s W. L. Foster 3, lcn. I. B. Humphreys et al's P. C. Coleman 1, fsh 1965 ft. J. T. Harris et al's W. C. Brown 1, sd 370 ft. Tidal Oil Co.'s J. J. Handley 1, fsh tools 3052 ft.

PECOS COUNTY—Arkansas Fuel Oil Co.'s Blackstone & Slaughter 1, materials. C. E. Menzie et al's Sherbino 1, lcn, Trans-Pecos Oil Co.'s H. L. Thomas 1, fsh tools and cas, 1830 ft; W. W. Turney 1, sd 2904 ft; Bennett 1, sd 1245 ft; Johnson-Troy 1, sd 2965 ft. Southern States Lease & Prod. Co.'s J. M. Odem 1, sd 1205 ft.

PRESIDIO COUNTY — Tesnus Oil Corp.'s

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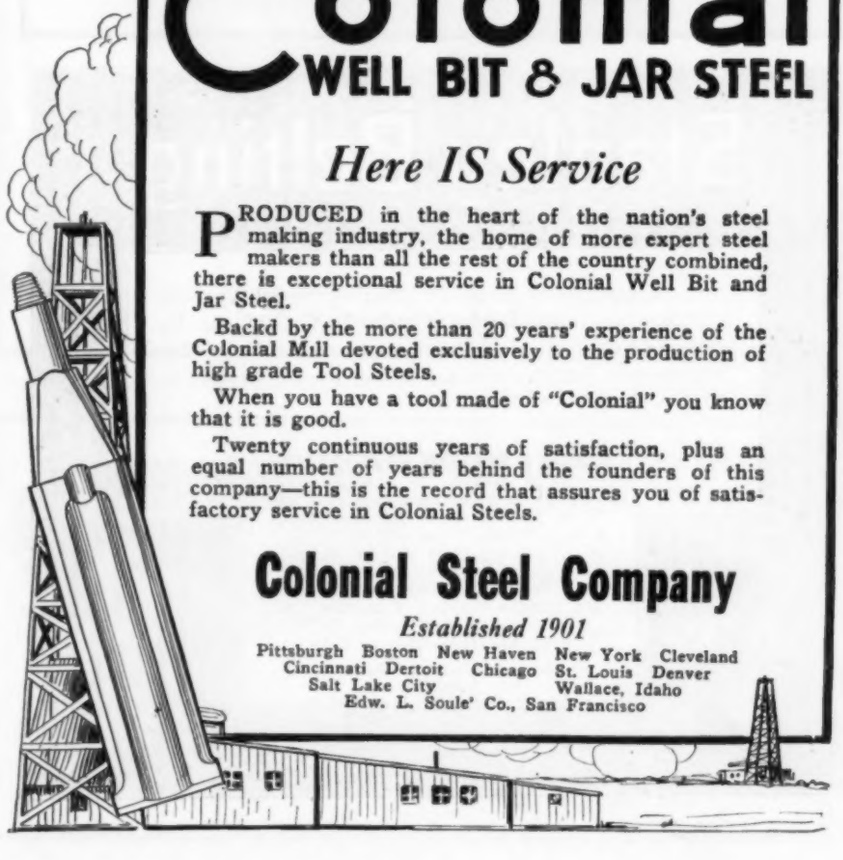

(was Claude Byler et al) Toole Estate 1, sd for 10-inch cas 965 ft.

REAGAN COUNTY — Big Lake Oil Co.'s University 12, (Sec. 36, Blk. 1) dr 450 ft. Texon Oil & Land Co.'s University 1, (Sec. 22, Blk. 9) pulling big pipe 2885 ft. Arkansas Fuel Oil Co.'s University 1, (Sec. 9, Blk. 6) dr 460 ft. Mid-Kansas Oil & Gas and Transcontinental's McIntosh 1, sd with hole full water 3433 ft. Transcontinental Oil Co.'s University 1, (Sec. 10, Blk. 1) lcn. C. J. Wrightsman et al's Ingham 1, (Sec. 39, Blk. "C", L. & S. V. Ry Sur) spd and sd. Orient Pet. Co.'s J. Belcher 1, lcn. Crockett Drilling Synd. et al's University 1, (Sec. 9, Blk. 9) rigged up. University Oil Co.'s (was Sparks & Owens) University 1, (Sec. 17, Blk. 1) rigged up.

REEVES COUNTY — Dixieland Oil Co.'s Oates 2, sd 4505 ft. W. S. Troy et al's H. G. Hersheusen 1, sd 415 ft. Bell Reeves Oil Co.'s Findley 1, sd 1540 ft. El Paso-Saragosa Oil Co.'s Geo. Wirt 1, sd 540 ft. Parker-Hancock Oil Co.'s Johnson 1, sd 1930 ft. Willoughby Pet. Co.'s W. D. Cowan 1, sd 610 ft. Rodenbaugh & O'Connell's W. D. Casey 1, sd 845 ft. Pecos Pet. Co.'s Johnson 1, sd 1930 ft. Texas Drilling Co.'s Pecos Valley 1, sd 1105 ft. Dome Drilling Synd.'s Ira J. Bell 1, lcn.

SCURRY COUNTY—Camp Springs Oil & Ref. Co.'s W. Y. Jones 1, sd 600 ft; J. O. Quinn 1, sd 3570 ft; L. E. Howell 1, lcn. Hermleigh Oil & Gas Co.'s J. W. Burris 1, sd 2965 ft. Stanton Oil & Gas Co.'s J. W. Riley 1, sd 3500 ft.

STERLING COUNTY — Chicago-Texas Oil & Gas Co.'s D. C. Durham 1, sd 1427 ft; Durham 2, dr 990 ft. Co-Operative Lease & Dev. Co.'s Douthitt 1, sd 1775 ft. Fidelity Oil Co.'s G. R. Hull 1, sd for cas 1640 ft.

STONEWALL COUNTY — Elder Nance et al's Ward estate 1, dr 350 ft.

TAYLOR COUNTY — Sanger Oil & Ref. Co.'s McClure 1, lcn; Tom Sawyer 1, sd 2700 ft; S. P. Hollingshead 1, rig.

TERRELL COUNTY—R. E. Dunn et al's Co-Operative Investment Co. Fee 1, lcn. Southwest Texas Oil & Gas Co.'s S. W. T. No. 1, sd 3515 ft.

TOM GREEN COUNTY — Ranger Investment & Dev. Co.'s Harris 1, dr by tools 3370 ft.

UPTON COUNTY—W. P. Morris et al's H. M. Halff 1, (Sec. 50, C. C. Phillips sur) dr 300 ft.

VAL VERDE COUNTY—East Del Rio Oil Co.'s Russell 1, sd 1800 ft. Independent Operators' Whitehead 1, sd 2200 ft.

WARD COUNTY—Arthur Pitts Oil Co.'s Soda Lake 1, sd 2205 ft; River 1, sd 4675 ft. Cook & O'Brien's G. W. O'Brien 1, sd 1175 ft. Trans-Pecos Oil Co.'s Longnecker 1, sd 1765 ft.

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East Central Texas Wildcats

COMPLETIONS

Company, Well, Location—	Initial Production Bbls.	Depth
Delta County—		
J. C. McNeil et al's M. C. Patrick 1, (D. Hodges sur)	*	2850
Freestone County—		
Hall-Hodges et al F. E. Gaddy 1, (H. Howard sur)	*	3385
Hopkins County—		
The Texas Co. M. F. Enix 1, (J. Halle sur)	*	3760

DRILLING REPORT

ANDERSON COUNTY — Roeser Petroleum Co.'s J. D. Via 1, (Isaac Simpson sur) sd 4411 ft.

BOWIE COUNTY—Boyd Oil Co.'s C. H. Thompson 1, (Jacob Barkman sur) dk. E. B. Guest et al's A. Hooks 1, (50-acre lease) John Barkman survey, lcn. Mission Oil Co.'s W. H. Nelson 1-A, (Nancy Dycas sur) dr 1300 ft. Geo. B. McCullough & Roell's W. R. Williams 1, (L. M. Rice sur) spd and sd.

FRANKLIN COUNTY—J. C. McNeil et al's J. C. Harper 1, (J. S. Clift sur) sd for water 2785 ft. Marshall & DeGenther's Hanks 1, (Swanner sur) sd 975 ft.

HOPKINS COUNTY—The Texas Co.'s G. W. Payne 1, (A. Douthitt sur) lcn. Gulf Production Co.'s W. J. Davis 1, (Jas. Clark sur) lcn. C. A. Kelsey et al's Addie Brooks 1, (D. Dowdle sur) sd for water 1605 ft. Bar-Tex Drilling Co.'s C. H. McClure 1, (D. Waggoner sur) dk. Stough & Potts' Fitzgerald 1, sd 600 ft.

HENDERSON COUNTY—Fred E. Haynes et al's E. G. Bounds 2, (Henry Jeffreys sur) testing show oil in shale 1940-48 ft.

HUNT COUNTY—Gulf Production Co.'s C. M. Cannon 1, (Robt. Ragsdale sur) dk. Sam Tallal & C. A. Kelsey's J. W. Barnett 1, (Alex Smith sur) dk.

KAUFMAN COUNTY — Judge Germany et al's W. S. Kirby 1, (S. Edens sur) sd for water 2896 ft.

LIMESTONE COUNTY—W. T. Church et al's R. Kennedy 1, spudding. Z. Gardner et al's Speight 1, (A. Averella sur) sd on top Austin chalk 2835 ft.

LAMAR COUNTY—Interstate Oil Co.'s Ben Hayes 1, (Larkin-Rattan sur) steel dk.

NAVARRO COUNTY—Boyd Oil Co.'s C. R. McCowan 1, (Morris Webb sur) plugged back from 3413½ to 3248 ft and sd; McCowan 2, cemented 5 3-16-inch cas 3227 ft, td 3228 ft. Gilbert Johnson et al's J. W. Greer 1, (G. Rushian sur) lcn. Alex Patrick and A. G. Ilseng et al's W. L. Roberts 1, (Jos. Mayor sur) sd 1740 ft.

RAINS COUNTY—Mrs. Ferguson and Short Bros.' W. D. Peeples 1, (F. A. Tibbles sur) spd and sd.

RED RIVER COUNTY—Johnson Petroleum

Co.'s Antone & Wooley 1, (Robert Gamble sur) running 6⅝ cas to test gas 2740 ft.

TITUS COUNTY—Magnolia Petroleum Co.'s George Antone 1, (M. V. Delgado sur) dr with cable tools 245 ft.

VAN ZANDT COUNTY — Frank Buttram-Porter & Holmes' J. T. Dunbar 1, (Van Sickle sur) top Pecan Gap 1510 ft; Austin chalk from 2354 to 2766 ft. dr in Eagle Ford shale 2975 ft.

WOOD COUNTY—Golden Oil Co.'s J. D. Adrian 1, (Hallmark sur) top Pecan Gap chalk 1866 ft, dr 2020 ft.

North Texas Wildcats

COMPLETIONS

Company, Well, Location—		Initial Production Bbls.	Depth
Baylor County—			
Magnolia Pet. Co.'s W. B. Mills 1..		*	1802
Clay County—			
Blake & Diesel's Hansard 1		*	1350
Lone Star Gas Co.'s Panhandle Fee 10		¶2	1668
Panhandle Fee 11		¶¼	1665
M. J. Sullivan et al's Scott 1.... ..		8	1215
Throckmorton County—			
W. A. Whatley et al's C. P. Todd 1	¶5		826

DRILLING REPORT

BAYLOR COUNTY — Batchelder & King's E. S. Wallace 1, sd water 100 ft. Crittenden et al's Hawkins 1, sd water 1615 ft. Dallas Oil Co.'s Showers Bros. 1, fsh 1300 ft. Independent Oil Co.'s Robertson School Land 1, sd for cas 2520 ft. C. B. Jetter et al's F. Gatzki 1, sd 660 ft. Lehman et al's Shawver Bros. 1, dr 100 ft. D. H. Moore et al's H. H. Fancer 1, dr 1100 ft: Richardson Bros. et al's Wallace Est. 1, sd 255 ft.

CLAY COUNTY—Atlantic City Prod. Co.'s Scaling 1, ur 2890 ft. Bowen & Ross' Stine 1, preparing to bail, sand 1875-1880 ft. Callender & Cumley's Stine 1, sd 1790 ft. J. T. Cumley's Nansy C. Camp 1, dk. L. R. Dixon et al's R. H. Godfrey 1, sd 1310 ft. Gulf Production Co.'s C. M. Worsham 4, (rotary) dr 1960 ft. Hart & McKenna's Stine 1, dr 1850 ft. Knox Finley Dev. Co.'s J. V. Howell 1, dr 1225 ft. Lone Star Gas Co.'s Martin 20, dr 1900 ft. Morris & D'Yarmitt's J. Stephenson 1, dr sand 1160 ft. J. O'Neil's O. A. Ross 1, rigging up. Piedmont Oil Co.'s C. Dean 1, dr 150 ft. Shelton Oil Co.'s H. Boddy 1, testing sand 1055-1075 ft, estimated 25 barrels. Somers & Nantz's Mary C. Parker 1, dk.

COLLIN COUNTY — W. B. Cyle et al's Walton 1, junked 1780 ft; Walton 1-A, dk.

COOKE COUNTY — Big Indian Oil Co.'s W. B. Davis 1, sd 3445 ft. Red River Drilling Co.'s Whaley Jones 1, sd 1255 ft.

DENTON COUNTY — Arbuckle Asphalt & Pet. Co.'s Kate Fonteberry 1, sd 500 ft. Hillcrest Oil & Dev. Co.'s J. H. Rayzor 1, sd 1350 ft.

FOARD COUNTY — Landreth Production Co.'s F. Halsell 1, sd 2670 ft.

GARZA COUNTY—B. V. Blackwell et al's J. M. Boren 1, dk burned, td 2110 ft. Union Pet. Corp.'s C. C. Connell 1, sd 750 ft.

GRAYSON COUNTY—Zee Tex Oil & Dev. Co.'s G. W. Cannon 2, sd 3000 ft; Griffin 1, sd 2325 ft.

HASKELL COUNTY—S. S. Kouri et al's Couch 1, sd 1490 ft. Weirt & York's Colbert 1, sd 2330 ft.

KNOX COUNTY—Brazos Bend Oil Co.'s J. E. Clark 1, sd 2020 ft. Evans et al's Ella Lawson 1, sd 765 ft.

MONTAGUE COUNTY — Boyd Oil Co.'s Mrs. F. E. Loy 1, sd, estimated 15 million cu. ft gas 586 ft; Mrs. M. H. Salmon 1, sd 902 ft, estimated 75 barrels oil. Guaranty Fund Oil Co.'s A. Jordan 1, DD, dr 2666 ft. Gulf Production Co.'s M. E. Benton 1, (rotary) dr 2360 ft. Mascho Oil Co.'s J. L. Howard 1, sd 3650 ft. The Texas Co.'s I. A. Gist 2-A, dr gas sand 725 ft, passed through sands good for more than 100 million cu. ft. of gas. Texhoma Oil & Ref. Co.'s N. J. Howard 1, dr

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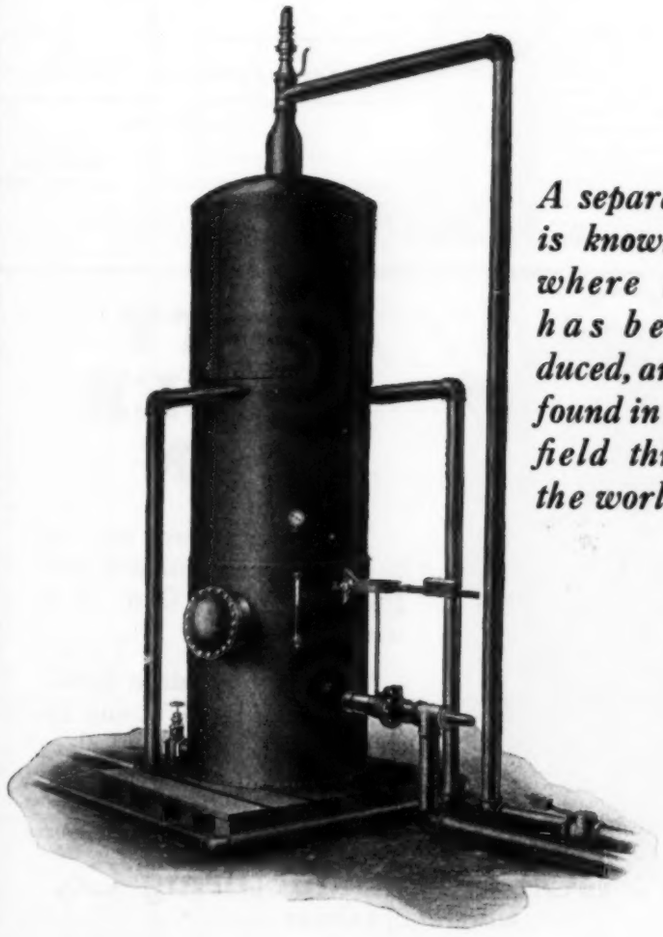

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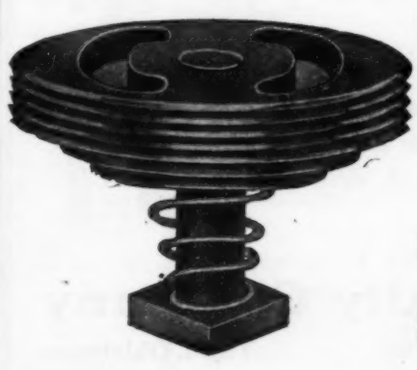

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STONEWALL COUNTY — Elder Nance's Ward Est. 1, dr 350 ft.

THROCKMORTON COUNTY — Adams, Brown et al's Polk County School Land 1, sd 1435 ft. Cragin et al's J. R. Burkhalter 1, sd 50 ft. Groves & Burton's Reynolds Land & Cattle Co. 1, sd 672 ft. Hamilton et al's J. T. Odell 1, spudded and sd. Haughland et al's Mrs. A. McKnight 1, sd 505 ft. Humble Oil & Ref. Co.'s J. L. Stubblefield 1, dr 2860 ft. C. F. Kelsey's W. D. Housley 1, sd water 50 ft. King et al's A. P. Broyles 1, sd 500 ft. Bruce Larkin et al's R. E. Conger 1, sd orders, td 1430 ft, estimated 15 barrels oil. Shamrock Oil Co.'s Mrs. A. McKnight 1, dr 750 ft. W. A. Whatley et al's Parrott 1, sd 565 ft. Young et al's Reynold's Cattle Co. 1, sd 275 ft. Young Bros. & Kennedy's A. B. Edsell 1, dr 905 ft.

WILBARGER COUNTY—Barker & Hamilton's A. P. Morris 1, sd water 305 ft. Bridwell & Heydrick's W. B. Dill 1, dr 1566 ft. S. A. Castleberry et al's J. Bowers 1, fsh 525 ft. Dill Farm Oil Co.'s W. B. Dill 1, dr 1540 ft. Dumas & Ellis's W. H. Stephens 1, sd for cable tools, td 1225 ft. Hart et al's Smith 1, sd for water 1140 ft. Murchison & Pigg's Green 1, sd for water 1025 ft. Noble Oil Co.'s W. T. Waggoner 1, fsh 1750 ft. South Vernon Oil Co.'s C. W. Richardson 1, sd 1275 ft. Tex-Wyoming Oil Co.'s C. Zipperly 1, dr 2188 ft. Winnipeg Oil Co.'s D. Bond et al 1, dr 744 ft.

Texas Panhandle Wildcats

COMPLETION

Company, Well, Location—	Initial Production Bbls.	Depth
Wheeler County—		
J. O. Whittington et al's Williams & Laycock	¶100	2225

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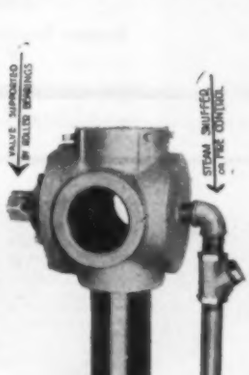

Palmer Specialty Company
O-9050 115 Tuloma Bldg. Tulsa, Oklahoma

DRILLING REPORT

CARSON COUNTY — American Ref. Co.'s Burnett Est. 2, (rotary) std 2560 ft; Burnett Est. 3, set cas 155 ft. J. Crosbie et al's Burnett Est. 1, rotary dk. Culbertson Bros. et al's V. B. Armstrong 1, sd 2975 ft. Danciger Oil & Ref. Co.'s Burnett Est. 1, dr (rotary) 2500 ft. C. F. (Jack) Greenwood et al's Burnett Est. 1, lcn. Gulf Production Co.'s Burnett Est. 4, dr 2860 ft; Burnett Est. 1-A, dr 2730 ft. Hicks & Schoonmaker's Burnett Est. 1, lcn. John B. Hofmeier et al's Burnett Est. 1, lcn. Marland Oil Co.'s Burnett Est. 1, rigging up. Olson Bros. et al's Burnett Est. 1, dr 1510 ft. Premier Oil Corp.'s Burnett Est. 1, cemented cas and sd 1300 ft. Producers & Refiners Oil Co.'s Burnett Est. 1, dr 2010 ft. W. W. Silk et al's Burnett Est. 3, sd 2900 ft. Skelly Oil Co.'s Burnett Est. 1, dr 2950 ft, approximately 2500 ft fluid in hole. The Texas Co.'s Burnett Est. 4, dr 2870 ft; Mary C. Burnett 1, crooked hole 2860 ft; Mary C. Burnett 2, fsh col cas 2725 ft. Henry Sweifel et al's Burnett Est. 1, lcn.

COTTLE COUNTY—T. J. Woodley et al's A. Dulaney 1, dr 2200 ft.

GRAY COUNTY—A. R. Anderson's C. W. Bradford 1, rigging up. W. H. Holmes et al's J. S. Morse 2, sd 20 ft. The Texas Co.'s G. H. Saunders 1, sr 2780 ft. Wilcox Oil & Gas Co.'s P. A. Worley et al 1, sd for storage, est. 300 bbls., td 2925 ft; J. H. Wilson, (rotary) fsh tools 2560 ft.

HUTCHINSON COUNTY—R. G. Barnum et al's Johnson 1, lubricating off 50 000,000 cu. ft. gas, td 2860 ft. Dixon Creek Oil Co.'s H. C. Smith 1, rigging up. Gulf Production Co.'s E. Cockrell 1, dr 2600 ft; J. A. Whittenberg 1-D, testing td 3025 ft, estimate 100 bbl well. H. T. McGee et al's Smith Capers 1, sd 3188 ft. Panhandle Ref. Co.'s J. J. Perkins 1, lcn. Prairie Oil & Gas Co.'s Deahl-Weatherly 1, dr 3120 ft. Producers & Refiners Corp.'s L. Bivens 2-B, dr 600 ft. Tex-O Oil Co.'s Johnson 1, dr 1175 ft. Twin Six Oil Co.'s W. L. Kirkland 1, cas col td 400 ft. Western Enterprise Oil & Gas Co.'s Smith Capers 1, dr 1420 ft. J. W. Wilson et al's Whittenberg 1, sd 2775 ft.

KING COUNTY—W. G. Trammell et al's Spikes 1, rigging up. J. O. Banks Oil Co.'s Bailey 1, sd 1600 ft.

MOORE COUNTY—Producers & Refiners Corp.'s R. B. Masterson 1, dr by 10-inch cas 1950 ft.

POTTER COUNTY—Amarillo Oil Co.'s J. C. Warrick 1, sd water 400 ft. Southwestern Dev. Co.'s W. H. Bush 1, lcn.

ROBERTS COUNTY — Phil Engle et al's Mrs. Ledrick & Sons 1, sd 1730 ft. Schenck & French's O'Laughlin & Sons 1, sd 300 ft.

WHEELER COUNTY—Cosden & Schenck's C. C. George 1, dd, fsh 2700 ft. Mid-Continent Oil Synd.'s Ember 1, sd 500 ft. W. D. Sheddon et al's B. F. Westmoreland 1, sd 400 ft. Union Petroleum & Supply Co.'s O. T. Nicholson 1, dr 1460 ft. E. S. Woodley et al's D. S. Bowers 1, dr 2050 ft.

San Antonio District Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Duval County—		
Iowa-Texas-Oklahoma Synd.'s Peters 2	*	2406
McMullen County—		
Wilkerson-Lightfoot's Lark 5	¶2	752

DRILLING REPORT

BEXAR COUNTY—Aviator's No. 1 Swearingen, dk. F. B. Slick's No. 1, dr. White & Hampton's Swearington 1, spd in.

DUVAL COUNTY—Mirando Oil Co.'s No. 14, set casing at 1525 ft. Co-Operative Drilling Co.'s Dinn 1, dr 1322 ft. Humble Oil & Ref. Co.'s Walsh 3, coring at 3525 ft. Mesquite Oil Co.'s No. 2, sd 1585 ft. Cain & Smith's

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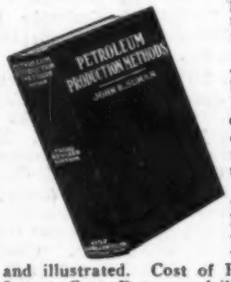

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Petroleum Production Engineering

By Lester C. Uren, Associate Professor of Petroleum Engineering, University of California.

Condensed outline of contents: I Petroleum Exploration and prospecting. II Acquisition of Title to Oil Lands. III Maps and Sections; Graphic Logs and Peg Models. IV Developing the Field. V Churn Drilling Methods. VI Rotary Drilling Methods. VII Casing, Casing Appliances and Casing Methods. VIII Fishing tools and methods. IX Oil field Hydrology; Exclusion of Water from Oil and Gas wells. X Control of high-pressure wells. XI Finishing the well. XII Production methods: Removal of oil from wells. XIII Production methods: Management of wells to secure maximum production. XIV Power for oil field purposes. XV Gathering, local storage and shipping of petroleum; gaging, sampling and testing. XVI Preliminary refining of petroleum; dehydrating and separation of sand and gas. XVII Storage. XVIII Transportation. XIX Auxilliary plants and departments. XX Office methods and records. 653 pages, 6x9, illustrated.

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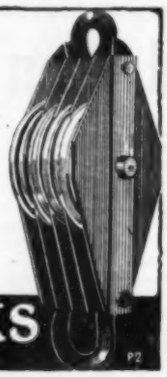

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ZAPATA COUNTY—H. J. McMullen's Serapio Vela 1, 2 and 3, lcns. Mirando Oil Co.'s No. 14, Sur. 307, dr; 15, dr below 1000 ft. Hill-Pierce Oil Corp.'s Vela ranch 2, setting casing. Killam Interest's No. 1, Sur. 307, set casing at 1664 ft. Hill et al's Haynes ranch 1, dr. R. K. Bateman's No. 1, Sur. 617, preparing to resume operations.

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DE SOTO PARISH — Greyhound Synd.'s Pollack 1, 36-11-14, dr 1910 ft. Tarver et al's Hewitt-Hicks 1, 10-11-14, dr 2270 ft.

EVANGELINE PARISH — Invincible Oil Co.'s Manuel 1, 36-5-2, dr 1030 ft.

GRANT PARISH—Grant Parish Pet Co.'s Ball 1, 1-8-1w, dr 2200 ft.

LA SALLE PARISH—Bur-Ban Oil Co.'s Urania 2, 21-21-2e, dr 1790 ft. Columbia O. & G. Co.'s Urania Lumber 1, 22-10-2e, rig. Gulf Ref. Co.'s Urania 1, 22-11-2e, dk; Urania A-1, 22-11-2e, sd 1022 ft. Stovall Pet. Co.'s Louisiana-Central Lumber 2, 27-10-2e, sd 2000 ft. Urania Pet. Co.'s Urania 4, 20-10-2e, set 8-inch 1552 ft. Zeigen et al's test, 22-10-2e, lcn.

LINCOLN PARISH—Buckner et al's Barrett 1, 13-20-3w, dr 1110 ft.

RED RIVER PARISH—LeGrande et al's Fee 3, 2-14-12, set 6-inch 2440 ft.

UNION PARISH—Cargile et al's Heard 1, 21-21-3w, sd 2409 ft. Clark & Melat's Feazel 1, 6-19-2e, dk timbers. Costello et al's Nelson 1, 17-23-1w, dr 2000 ft.

WEBSTER PARISH — McDowell et al's Hortman 1, 15-20-10, rig.

WEST CARROLL PARISH—Arkansas Fuel Oil Co.'s Fiske 1, 8-21-10e, dr 2715 ft. Orion Oil Co.'s Bain Wagon 1, 223-23-10e, sw 2900 ft.

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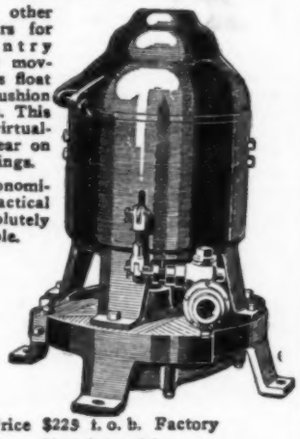

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Nevada County—		
Dee et al's Johnson 1, 27-14-21	*	1714

DRILLING REPORT

CALHOUN COUNTY — Arkansas Fuel Oil Co.'s Childress 2, 1-15-15, dr 2935 ft. Southern Drilling Co.'s Burrows 1, 25-10-20, lcn.

CLEVELAND COUNTY — Markle Synd.'s Plummer 1, 22-9-10, dry 2666 ft.

COLUMBIA COUNTY—Brown et al's Robinson 1, 23-18-23, sd 3034 ft. Hargis et al's Souter 1, 24-17-22, dk. Heath Trust's Williams 1, 1-19-21, dr 2150 ft. Johnosn et al's Sailles 1, 18-17-22, sd 915 ft. Kemp et al's Emerson 1, 7-19-19, sd 630 ft. Miller et al's Watts 1, 20-16-18, abn 1890 ft. Phillips et al's Davis 1, 15-18-21 sd 550 ft.

DALLAS COUNTY—Durr (Conway) et al's Riggs-Matlock 1, 33-8-15, sd 2400 ft.

DREW COUNTY—Graves et al's Karnes 1, 20-14-6, sd 2385 ft. King & Wilson's Trotter 1, 12-13-6, sd 900 ft. Ratcliff et al's Spencer 1, 21-14-7, sd 1650 ft. Rhodes et al's Harris 1, 5-13-8, sd 2107 ft. Spooner et al's Meyer 1, 4-16-17, sd 50 ft.

GRANT COUNTY—Arnold & Hill's Meeks 1, 8-4-11, dk. Haley & Evans' Pike 1, 8-6-11, sd 50 ft.

HEMPSTEAD COUNTY — Fullilove Drlg. Co.'s Ford 1, 31-14-23, sd 50 ft. Simmons Trust's Adams 1, 36-12-27, sw 2700 ft. Meyer et al's Nicholls 1, 17-11-25, fsh 1980 ft.

LA FAYETTE COUNTY — Ken-Saw Pet. Co.'s Red River Lumber 2, 3-20-24, rig.

LINCOLN COUNTY—Bennett et al's Jones 1, 33-10-6, bldg dk.

LITTLE RIVER COUNTY—Gaines et al's Thomas 1, 15-13-29, sd 3335 ft. Grote et al's Allen 1, 2-13-29, dr 2975 ft. Johnson et al's Hawkins 1, 10-11-31, sd 1350 ft. Red River Valley Oil Co.'s Taylor 1, 29-13-29, sd 2790 ft.

MILLER COUNTY—Kress et al's Thompson 1, 33-14-28, sd 917 ft.

HOWARD COUNTY—Brown et al's Cawking 1, 33-11-27, dk. Erickson et al's Jones 1, 25-10-28, dk. United Pet. Co.'s DeLaney 1, 8-11-27, dk.

NEVADA COUNTY—British Allied's Valley Lumber 1, 31-11-20, dk. Greeson et al's Lester & Mills Lumber 1, 3-11-20, set 10-inch 241 ft. Kan-Ark Oil Co.'s Honea 1, 12-13-21, sd 1700 ft. Lockhart et al's Porter-Cornelius 1, 17-10-22, dr 1100 ft. Prescott Oil Co.'s Henry 3, 10-12-20, sd 1000 ft. White et al's East 1, 13-13-22, sd 20 ft.

OUACHITA COUNTY—Dee et al's Criner 1, 21-15-19, dk. Morefield & Tanner's McDaniels 1, 28-14-17, dr 2600 ft.

UNION COUNTY—Berry et al's Union Saw Mill 1, 14-19-11, sd 875 ft. Bondurant et al's Turbeville 1, 9-18-12, sd 2660 ft. Harrell Trust's Teele 1, 11-19-12, sd 3177 ft. Jeter Trust's Burnside 1, 33-17-13, sd 3055 ft. Lemond et al's Terrell 1, 22-18-14, dk. Traffic Oil Co.'s Goodwin 1, 20-16-14, sd 3026 ft.

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BARTON COUNTY — Cheyenne Oil Co.'s Sooy 1, SWc SW 27-18-12w, sd 3525 ft. Haynes et al's No. 1, NWc 31-12-12w, sd 1700 ft. Mountain States Oil & Gas Co.'s No. 1, SEc NE 22-18-13w, set 6-inch 3214 ft. Jasper & Becahka's Schauf 1, SEc NW 11-16-12w, dr 2710 ft. Huffine et al's Smith 1, C NE SW 21-19-12w, rig blown down, td 3214 ft. Streeter & Stearns' Brown 1, NEc SW 21-19-12w, r 3355 ft.

COFFEE COUNTY — Sunbeam Pet. Co.'s Andrews 1, NWc NE 32-20-15, rig. Thad O'Days' Allen 1, NWc SE 13-21-15, sd 900 ft. Manhatten Oil Co.'s Elliott 1, NWc SW 14-23-13, sd 350 ft. White Eagle Oil & Refining Co.'s No. 1, SWc NE 26-19-13, dr 2020 ft.

CLARK COUNTY—Watcham O. & G. Co.'s Morrison 1, SEc NE NE 2-22-21w, dr 4585 ft.

CLOUD COUNTY—Livingston et al's Murdock 1, NEc 7-6-4w, sd 365 ft.

ELLIS COUNTY—J. Alan Harvey's Polifka 1, SEc NW NE 18-15-17w, sd 2630 ft. Jas. Davis et al's Smith 1, NWc 14-12-16w, dr 300 ft.

GEARY COUNTY—Liberty-Texas Oil Co.'s Wright 1, NEc 9-12-6, sd 750 ft; Foster 1, NEc SW 30-12-6, sd 2000 ft.

GRAHAM COUNTY—Keyes Bros. & Marine's Taxton, SEc NW 23-8-24w, sd 100 ft.

FINNEY COUNTY — Garden City O. & G. Co.'s Wann 1, SEc SE 36-21-30, sd 2890 ft.

JEFFERSON COUNTY—Northern Counties' Edwards 1, SEc NW NW 13-7-19, sd 3405 ft.

KINGMAN COUNTY—Hale et al's Garner 1, SWc NW 34-27-7, sd, 2543 ft.

LINCOLN COUNTY—Trees Oil Co.'s Kohler 1, SEc 36-11-10w, sd 3450 ft. Turman Oil Co.'s Dohl 1, SEc NW 25-12-10w, sd 3210 ft. Berry & Rosenthal's Lambert 1, C NW 31-12-10w, dr 1980 ft. Amerada Pet. Co.'s Crawford 1, NEc SW SE 16-11-7, sd 1815 ft. Equity Oil Co.'s Jellison 1, NWc SE 19-13-9, sd 2700

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MITCHELL COUNTY — Alcorn Oil Co.'s Beeder 1, NEc 10-9-8w, dr 2685 ft.

OSBORNE COUNTY—Ligett et al's Worley 1, NWc NW 34-10-15w, dr 3557 ft. Delhi Oil Co.'s Forman 1, SWc SW 30-10-11w, sd 2735 ft. Moyer et al's Williams 1, NEc SW NE 9-10-14w, spd and sd.

OSAGE COUNTY — Rodgers & Bittles' Bertha 1, SEc NW 22-17-16, lcn. Mul-vit Dev. Co.'s Neil 1, NEc NW SW NE 8-17-17, sd 2735 ft. Meyer et al's Williams 1, NEc SW NW 12-18-14, spd.

POTTAWATOMIE COUNTY—Crawford et al's Stewart 1, C E L SE SE SE 17-9-12, rig; Greischabert 1, SWc SE SE SW 31-9-12, rig; St. Mary 1, SWc 11-1-12, sd 2290 ft.

RICE COUNTY—H. T. Proctor's Taylor 1, NWc 15-21-10w, sd 20 ft. Rino Oil Co.'s Decall, SEc SW NW 35-19-8w, sd 3570 ft, hfw. Emerson Casey's Bush 1, NEc 7-20-16w, sd 3565 ft. Stamcy et al's Barnes 1, SEc NE 21-20-6w, fsh 2110 ft. Jasper & Beschka's Walker 1, SWc NE 10-18-6w, sd 30 ft.

RILEY COUNTY—Walton Oil Co.'s No. 1, NWc 20-10-12, sd 1600 ft. Pawnee Oil Co.'s Marks 1, SWc NE NW 26-10-6, sd 1700 ft.

ROOKS COUNTY—Keyes Pet. Co.'s Saindon 1, NWc SW SE 7-8-20w, rig.

RUSSELL COUNTY — Merriam et al's Murphy 1, C SW 11-12-12w, dr 3335 ft. P. & R. Corp.'s Haise 1, NWc SE 24-12-15w, dr 3215 ft. Patton et al's Walbridge 1, SWc NE 4-13-13w, sd 3241 ft. Amerada Pet. Corp.'s Milke 1, SWc SE SW 20-12-15w, dr 3255 ft. White Eagle O. & R. Co.'s Dodge 1, SEc SW SW 29-11-15w, dr 1070 ft. Pomeroy et al's Cooper 1, SEc 33-12-11w, sd 2000 ft. Alcorn Oil Co.'s Seller 1, SEc 36-15-12w, r 2350 ft. J. Gardiels Buels' Diesroth 1, SEc NE SW 1-14-11w, sd 2850 ft.

SALINE COUNTY—Thralls et al's No. 1, SEc NE NW 15-15-4w.

SEWARD COUNTY — C. T. Dev. Co.'s Woods 1, NWc SE 34-34-34, sd 700 ft. Seward O. & G. Co.'s Selsey 1, NEc NW 2-33-33, dr 2427 ft.

TREGO COUNTY—Keyes Pet. Co.'s Walsh 1, NWc SE 5-11-25w, sd 1700 ft; Walsh 2, SWc NE SW 5-11-25w, sd 1550 ft. Keyes Bros. & Marines' Davis 1, NEc SW 16-11-24, sd 3030 ft.

WABAUNSEE COUNTY—Williams et al's No. 1, NEc SW NE 15-13-12, fsh 3560 ft.

WASHINGTON COUNTY—Barnes O. & G. Co.'s Wickham 1, SEc SW 9-5-5, sd 1305 ft.

WOODSON COUNTY — Equity Oil Co.'s Soloman 1, SWc NE NW 30-26-17, sd 3340 ft. Herman & Oglisby's Lanber 1, SWc 4-26-14, sd 560 ft.

Oklahoma Wildcats

ALFALFA COUNTY—McGuinne & Wards' Watts 1, C NE SW SE 21-27-10w, sd 3010 ft. Armstrong, Henley & Piffless' Turnbull 1, C NW SE NW 23-24-11w, sd 50 ft.

ATOKA COUNTY — McPhearson et al's Wild 1, SWc NW 7-2-9, dr 4245 ft. Henson et al's Dabney 1, C SE NW 17-4-11, dr 1920 ft. J. P. Torrence et al's Fee 1, SWc NE 1-2-9, sd 2235 ft, hfw. Wapanucka Dev. Co.'s Underwood 1, C W L SE SE 28-2-9, sd 1343 ft.

BECKHAM COUNTY — Lewis & Co.'s Burkhalter 1, C NE NW 6-9-24w, sd 2750 ft.

BLAINE COUNTY—Meyers et al's Chronister 1, SEc NW NW NE 7-18-15w, sd 965 ft. Thompson's Dickerman 1, C SE SE SE 26-15-12w, sd 3213 ft. Okomo Oil Co.'s Eklemeyer 1, SWc 21-15-10w, sd 2610 ft.

BRYAN COUNTY—Lyons et al's Coombe 1, SEc SW NE NE 11-8-9, sd 975 ft. Alenander's Hampton 1, SEc NE 26-7-11, sd 1400 ft.

CANADIAN COUNTY — Thos. Revelle's Dawson 1, NEc 34-13-9w, sd 2528 ft. Carroll et al's Setter 1, SEc 2-13-8w, sd 110 ft.

CLEVELAND COUNTY — Garr Oil Co.'s Holland 1, NEc SE 31-10-4, sd 2620 ft.

CUSTER COUNTY—Hoover Oil Co.'s No. 1, NWc SE 34-13-14, sd 2510 ft. Magnolia Pet. Co.'s Cutfinger 1, NWc SE 17-13-14w, dr 2075 ft.

COAL COUNTY—Basie Oil Co.'s Heck 1, SEc 18-2-9, rig. Bearman et al's Payte 1, SWc NW NE 32-2-9, sd 2780 ft. Guy Vaughin's Nichols 1, SWc 1-1-11, rig.

GRANT COUNTY—Embry et al's Edwards 1, C SE SE NW 20-26-2w, sd 1000 ft. Midwest & Gulf's Moon 1, NEc NW 8-27-8w, sd 2300 ft. Phillips Pet. Co.'s Riding 1, NEc SE NW 29-29-4w, sd 3038 ft. Frank Travis et al's Fuss 1, SWc NW NW 3-37-4w, sd 900 ft.

GREER COUNTY—Neal et al's Johnson 1, SEc NE NW 3-7-22w, sd 1200 ft. Boss & Terrills' Van Victor 1, C SW SW 4-3-22w, rig.

HUGHES COUNTY — Furhamn Pet. Co.'s O'Miller 1, SWc SE SE 5-7-9, set 5-inch 3340 ft. Mathers & Skelley's McClain 1, C SW SW 4-5-11, sd 3026 ft. Dixie Oil Co.'s Irvine 1, SWc NW SE SE 18-8-10, dr 3040 ft. Douglass Oil Co.'s No. 1, Johnson, C NW SW 12-5-9, dr 1600 ft.

JACKSON COUNTY—J. D. Wade's No. 1, C SW NW 15-1-23, co 2810 ft. J. R. Abernathy's Snodgrass 1, C NW NW 15-1-23w, sd 1601 ft.

JEFFERSON COUNTY — Shawver et al's Anderson 1, SEc NE 31-4-8w, sd 1200 ft. Landis et al's Standfield 1, SEc 33-7-6w, sd 1150 ft. Roy Johnson's Mullen 1, NEc NW 9-4-4w, dr 1271 ft. Barker et al's Major 1, C SE SW 34-5-6w, rig. Godley Oil Co.'s Woodwarth 1, C NE NW 36-5-4w, rig.

JOHNSON COUNTY—Washita Oil & Co.'s Trootes 1, C SE SE NE 7-4-4, sd 2180 ft. United "8" Oil Co.'s Holden 1, NWc SW NW 36-5-6, sd 2330 ft.

KAY COUNTY—Ostot Dev. Co.'s Rohos 2, C NE SE 3-27-1, sd 3438 ft. Day Oil Co.'s Vandatta 1, SWc NW 8-26-2w, sd 2835 ft.

KIOWA COUNTY—Connor et al's No. 2, NEc NW NW 34-7-16w, sd 1548 ft. Anbyme Oil Co.'s No. 1, SWc NE 3-7-17w, dr 1485 ft. Alcorn Oil Co.'s No. 1, NEc SE SE SW 13-7-16w, lcn.

LINCOLN COUNTY—Sun Ray Oil Co.'s

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Gallagher 1, C N L SE SE 18-13-5, sd 3505 ft. P. & R. Corp.'s Hainzig 1, SWc NW SW 14-13-6, fsh 2030 ft. Douglas Oil Co.'s Ewing 1, NWc 7-13-3, dr 2650 ft. J. C. Cook's Richardson 1, SWc NE SW 8-12-5, sd 1325 ft. Eugene Costa et al's Dodrill 1, SEc NW 26-12-2, sd 1476 ft.

LOGAN COUNTY—Buford-Brim Oil Co.'s Newman 1, NWc NW 32-19-3w, cas trouble 2345 ft. Oklahoma Drilling Co.'s Johnson 1, SEc SW 36-15-2w, sd 1716 ft. Franklin Oil Ass'n Moore 1, NWc SE SE 28-19-4w, sd 1820 ft. McMunn & Nixon's Fields 1, SWc NE SE 35-7-4w, rig. Haley & Pioneer Pet. Co.'s Quiar 1, SWc SE 33-12-3w, rig rebuilt. Pluto Oil & Gas Co.'s Lair 1, C S L N½ SE 28-16-1w, sd 750 ft. Gilliland Oil Co.'s Ohm 1, C NW 5-19-2w, sd 900 ft. Magnolia Pet. Co.'s Pritchard 1, NWc 23-15-1e, dr 1670 ft.

LOVE COUNTY—Wichenheiser et al's Beal 1, NEc SE 13-5-3, dr 3300 ft. Driller Syndicate Oil Co.'s Wilson 1, NWc NE 11-7-2, sd 2830 ft.

MAJOR COUNTY—Texas Prod. Oil Co.'s Basin 1, SWc 36-22-14w, spd and sd. Bradstreet Oil Co.'s Ratcliffe 1, C SW 9-22-9w, r 2720 ft. Frantz & Slick's Gray 1, C NW 36-21-11w, sd 1000 ft.

MARSHALL COUNTY—P. & H. Oil Co.'s Franklin 1, C E L NW NE SW 34-6-7, dr 2000 ft. Sims Oil Co.'s Starritt 1, SEc NE SE NE 29-6S, dr 1200 ft.

OKLAHOMA COUNTY—Firestone O. Co.'s School 1, NWc SE 36-11-3, dr 4050 ft.

PONTOTOC COUNTY — Harper et al's Dener 1, NWc SE SE 19-5-7, dr 2500 ft. Smith et al's Norris 1, SWc SE 34-4-6, sd 2430 ft. Riverside Oil Co.'s McFarland 1, NWc NE NW 4-5-5, sd 650 ft. Roy Carter's Burk 2, NEc SE SE 32-5-5, sd 2960 ft. C. J. Wrightsman's Floyd 1, SWc NW NE 24-4-4, dr 1778 ft. Hughes et al's Falkner 1, C SW NE 2-4-7, sd 1035 ft. Galloway et al's Hays 1, NEc SE NW SW 13-3-6, sd 1160 ft. Craig et al's Starritt 1, NWc NE 5-4-5, sd 600 ft.

POTTAWATOMIE COUNTY — Ossie Oil Co.'s Howell 1, SWc NE 13-10-2, dr 2660 ft. Davis Detricks' McGahey 1, SEc 10-6-2, fsh 3725 ft. H. G. Guinnup et al's Floyd 1, SWc SE 12-11-3, fsh 3670 ft. North American Oil Co.'s Madgett 1, NWc 25-10-4, sd 460 ft. Maud Oil Products Co.'s Yinson 1, NEc SW 18-7-5, sd 2935 ft. McMann Oil Co.'s Neghan 1, SWc NW 12-7-4, sd 100 ft. Day Oil Co.'s Bell 1, SEc NW NE 9-5-3, dr 3915 ft. Halmond Osmond et al's Fiddler 1, SEc NW 4-5-5, sd 545 ft.

ROGER MILLS COUNTY—Twin Hills Oil Co.'s McClure 1, NWc 15-15-26w, sd 3021 ft. Trio Oil Co.'s No. 1, SEc NW SW 3-13-26w, sd 3036 ft.

SEMINOLE COUNTY — Maxwell et al's Charty 1, C NE NW 33-6-6, dr 1610 ft. T. B. Slick's Sanny 1, 19-6-7, dr 3267 ft. Wm. McDougal's Dindy 1, C SW SW 20-6-7, dr 3310 ft. R. F. Garland's Winey 1, C NE NW 6-6-8, r 1000 ft.

TILLMAN COUNTY—A. L. Spear's Couch 1, NWc NE SW 10-4-18w, sd 1590 ft.

WASHITA COUNTY—McCoy et al's Preter 1, C SW SW NE 9-8-15w, sd 3115 ft. Sun Ray Oil Co.'s Rice 1, SEc 33-8-18w, dr 1951 ft.

WOODS COUNTY—Victor Oil Co.'s Van Buskirk 1, SWc SE 10-25-15w, sd 960 ft.

East Central Texas Wildcats

BELL COUNTY — Camp Elm Oil Co.'s Frank Spaniel 1, (Woodford sur) 7 miles NE of Rogers, dr 1200 ft. Joe B. Hartman et al's Warrick 1, (James Smith sur) 25 miles SW of Belton, sd 2830 ft.

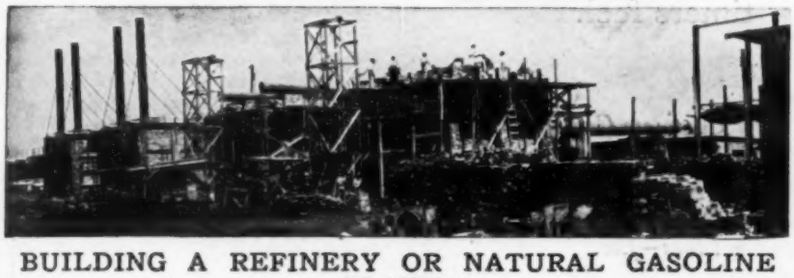
BURLESON COUNTY—Burleson Oil Co.'s Rogers 1, (J. P. Cole sur) sd 2345 ft. Beattle Synd.'s Giesenslag 3, (L. Lawrence sur) fsh 3120 ft.

FALLS COUNTY—Groover & Stiles et al's Rubbles 1, (S. W. Jordan sur) 1 mile NW of Lott, dr 2015 ft. C. W. Harrison et al's J. M. Preston 1, (H. Anderson sur) 1½ miles SW of famous Jones well at Kosse, rigging up. High Bank Oil Co.'s Peacock 1, (T. W. Chambers sur) 5 miles west of Reagan, co cavey hole 3050 ft. Mayflower Oil Co.'s Covington 1, (S. C. Robinson sur) 2½ miles south of Reagan, preparing to shoot upper pay, td 2805 ft. Myrin et al's DeGraffinreid 1, (D. Aguierre sur) 4 miles NE Chilton, dr lime 1750 ft. Myrin-Stallworth et al's Stallworth 1, (Graham sur) 7 miles west of Marlin, flow hot mineral water 2197 ft, sd 2295 ft. Pierce Petroleum Co.'s Wm. Clark 1, (John West sur) 3 miles west of Bremond, fighting cave 3530 ft. Post Oak Oil Co.'s Penny 1, (J. A. Mancha sur) dr 1715 ft.

McLENNAN COUNTY—Anderson & Sullivan's McGee 1, (L. G. Gray sur) lcn. Waco Pet. Co.'s Taylor 1, (Martinez sur) sd 1270 ft. Graver et al's Case 1, (G. A. Roberts sur) ur 1310 ft. Stiles-Groover-Croft & Lynch's J. E. Helton 1, (W. S. Fridge sur) lcn.

MILAM COUNTY — C. A. Baden et al's Woodwall 3, (Ruben Fisher sur) 7 miles NE of Jones spur, dr 930 ft. Beverly Oil Co.'s M. E. Ashley 1, (J. Robinson sur) 4 miles NE of Milano Junction, sd 3300 ft. Davis et al's Shelander 1, (Josie Leal sur) 3 miles south of Minerva, fsh 980 ft. Garland P. Falls et al's J. F. Holliman 1, (W. W. Hill sur) 5 miles SE of Rockdale, fsh 465 ft. Mills Bennett (Twin City Oil Co.'s) John Bremond 1, (J. J. Liendo sur) 2 miles SE of Thorndale, fsh 2925 ft. National Oil & Ref. Co.'s L. S. Dilworth 1, (J. J. Acosta sur) 3 miles west of Tracey, top Austin chalk 1070 ft, dr chalk 1250 ft.

ROBERTSON COUNTY—J. C. Bland et al's A. W. Wilkerson 1, (Francisco Ruiz sur) 3 miles east of Hearne, dr Taylor Marl 3240 ft.



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AT THE INTERNATIONAL Petroleum Exposition and Congress at least three oil men in every four will pause at the Frick-Reid booth with the same sensation that a man feels when he comes unexpectedly upon a friend in a great crowd of strangers, dressed up and smiling.

Which is by way of saying that the Frick-Reid exhibit will be not so much in the interest of sales as for the purpose of cementing friendships.

If fate has denied you that good fellowship with your equipment that every user of Frick-Reid products enjoys, make yourself at home around our booth at the exposition and note for yourself how the old timers feel.

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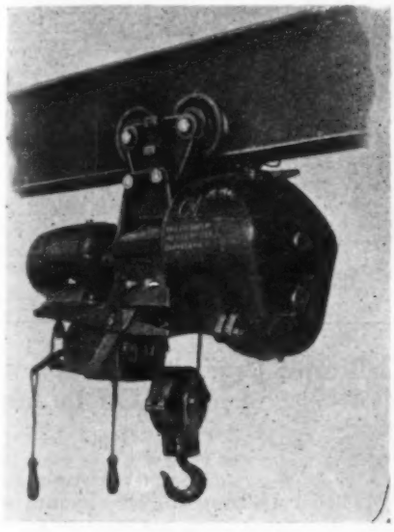

Chisholm-Moore Electric Hoist.

Electric Hoist Recommended For Oil Field Service

A hoist for the oil fields where electricity is available is being marketed by The Chisholm-Moore Manufacturing Company, Cleveland, Ohio. It is claimed by the company that the hoist has paid for itself in a month or two after installation in numerous instances.

Where hoisting only is required, C-M hoists may be fastened to stationary supports. Hooks, steel plates or through bolts are commonly used. Where, as is more often the case, hoisting and conveying are required, the hoist is fitted with a trolley.

For capacities under three tons these trolleys are unusually free running and the hoist is moved by pushing the load. For larger capacities, a geared trolley operated by pendant chains is recommended.

The motor used in the C-M hoist is a standard enclosed crane motor mounted on a shelf. By taking out four bolts, the motor may be turned around on the shelf for ordinary inspection or repair.

A flexible disc coupling, into which the motor extension shaft is splined, is supplied on all hoists except the smallest size.

A shoe type brake, operated automatically by the controller, is applied to the motor. A magnetic brake will be supplied where the condition requires it.

The controller is of the standard enclosed drum type built especially for this hoist. Compensating fingers and renewable contacts are furnished except where special controlling apparatus is required.

A steel trip lever, operated by contact with the hook block, limits the upward travel of the hook. Special forms of upper and lower limits can also be furnished if desired.

The load is controlled at all times by a Weston type brake of very ample proportions, and running in oil.

The drum is of proper diameter for the size of cable used and is so placed in the frame that under no conditions whatsoever can the rope get outside the drum flanges and jam.

The best grade of plough steel hoisting rope is used.

A heavy steel casting with machined sheave, drop forged hook and ball race or washers is used in the hook block.

Casting of ample proportions is used in the hoist frame.

Two reductions of plain spur gearing are used. The pinion teeth are hobbed right in the shaft. The pinions and drum gear are of alloy steel, heat treated. The motor gear is a steel casting. Extremely high strength and durability are thus obtained.

Hyatt Roller Bearings are used in the standard hoist mechanism. Sheaves and special construction will be bronze bushed.

Shafts are of alloy heat treated.

The mechanism of the standard hoist is enclosed and runs in oil.

The hoist is completely wired. Armored conduit with outlet boxes and fittings are used.

The entire hoist mechanism can be removed through the front end by taking out six bolts. Interchangeability is obtained by complete jig and fixture equipment.

Further information can be obtained by writing the Chisholm-Moore Manufacturing Company, Cleveland, Ohio.

"Speednut" Wrench Has Jaws That Adjust Automatically

"Speednut" is the trade name of a wrench recently announced by the Speednut Wrench Corporation, 20 East Jackson Boulevard, Chicago, Illinois.

The wrench automatically adjusts itself to all sizes and shapes of nuts. It works without the spring shown in the illustration, but the spring aids in keeping the jaws of the wrench in constant adjustment.

All parts of the wrench are of forged high grade carbon steel, carefully heat treated, polished, and thoroughly tested and guaranteed.

The mechanism for opening and closing the jaws allows the wrench to be "ratcheted" rapidly. The harder the pull in the handle, the tighter the jaws grip, and the jaws prevent slipping on the nut and wearing off the corners.

Simplicity of construction characterizes the wrench, with only three pieces comprising its make-up.

Further information can be obtained from the company.

Adjustable Bridge Reamers Find Market in Oil Fields

A line of bridge reamers which are finding a market in the oil industry is being announced by the Wayne Tool Manufacturing Company, Waynesboro, Pennsylvania. These reamers are recommended wherever riveting is being done either by hand or machine.

Adjustable reamers with pilot features are specialties of the company. The adjustable reamers are guaranteed precision tools, every part being interchangeable. This makes it possible to procure new sets of blades accurately ground to size.

According to manufacturers of the reamer, the method of attaching the pilot to the adjustable reamer is an exclusive feature. It is said to positively insure the pilot being concentric with the reamer blade.

The pilots are hardened and accurately ground to suit the work. Any size can be furnished on request.

Further information and literature can be secured upon request to the Wayne Tool Manufacturing Company, Waynesboro, Pennsylvania.

The OIL WEEKLY will print on this page data on new oilfield equipment, improvements on old equipment, news of new catalogs, bulletins, etc. This department is handled exclusively by the editorial department and has no connection with the advertising department. Data will be carried on anything which the editorial department thinks of interest to our readers, regardless of whether or not the manufacturer is an advertiser in the The OIL WEEKLY.—Publisher.

California Petroleum Statistics

(Barrels of 42 Gallons)

Month—	Production	Consumption*	Storage†	New Rigs	Wells Drilling	Producers Comp.	Aband.‡	Initial Prod.	No. Prod. Wells
1923—January	16,457,445	15,006,785	62,635,588	155	712	78	21	102,739	9,077
February	16,426,759	14,249,952	64,812,395	118	742	43	14	77,221	9,034
March	19,608,192	17,827,016	66,593,571	131	764	71	21	97,425	9,058
April	20,695,959	18,352,071	68,937,459	138	812	60	29	117,589	9,043
May	21,535,365	20,992,419	69,480,405	92	822	56	24	96,420	8,847
June	22,667,106	19,510,364	72,637,147	85	824	79	13	152,974	8,859
July	25,262,082	19,243,625	78,655,604	121	812	95	29	161,599	8,808
August	26,440,005	21,971,774	83,123,835	75	803	61	16	118,433	8,882
September	25,762,487	23,389,713	85,496,609	104	805	93	37	139,960	8,922
October	24,576,400	21,723,459	88,349,550	94	745	99	33	127,758	8,617
November	22,397,848	21,744,053	92,081,143	99	647	111	35	99,797	8,590
December	21,899,247	22,055,237	91,925,153	115	590	134	21	84,364	9,396
1924—January	20,912,500	** 582,820	94,254,833	149	586	120	48	56,239	9,801
February	19,341,226	18,135,554	95,460,505	81	593	102	57	44,471	10,383
March	19,913,262	18,707,048	96,666,719	137	553	131	105	62,771	10,549
April	19,299,849	18,630,917	97,335,651	118	556	97	25	37,937	10,826
May	19,833,576	17,657,290	99,511,937	112	514	150	32	56,451	10,900
June	18,807,999	17,742,081	100,577,855	129	549	88	38	32,209	11,062
July	19,274,755	18,386,385	101,466,225	119	504	137	41	55,975	11,305

*Includes shipments. †Includes residuum and Tops. ‡Also includes abandoned producers.

RATIGAN "Sure-Grip"
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California Production Average Off In July

Los Angeles, Calif., Sept. 5.—According to figures released this week by the West Coast office of the American Petroleum Institute for the month of July, the production average of crude oil in California for that month was off 5167 barrels a day when compared with June.

The total production for the month was 19,274,755 barrels, showing an increase over the previous month due to the extra day in July.

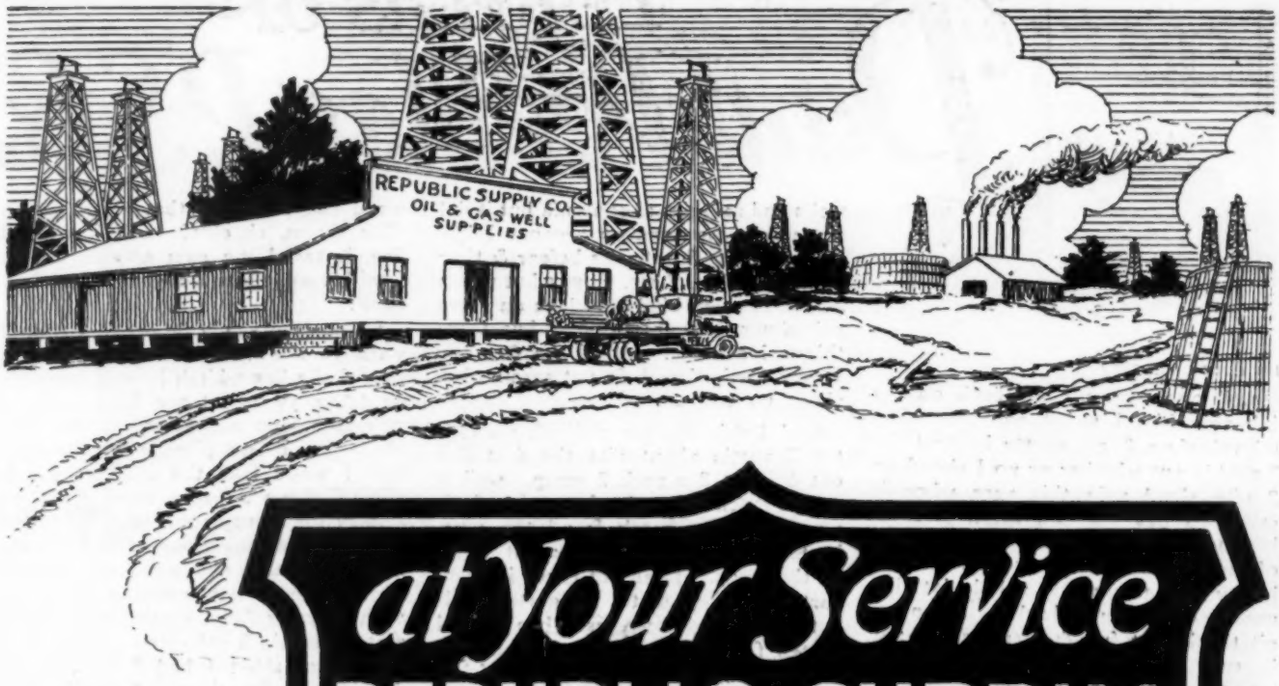
By reference to The OIL WEEKLY of August 1, it will be seen that an estimate that early placed the total production of the state at 19,177,375, falling short only 97,380 barrels. An estimate made first two or three days of the succeeding month on the production of the previous month which later proves to be close to one-half of one per cent of being correct should be of real value to those studying the trend of events in the petroleum world.

Stocks during July showed an increase of 888,370 barrels, bringing total stocks of crude, residuum and tops to 101,466,225 barrels. The increase largely was in field and pipe line stocks. Heavy stocks of crude gained about 750,000 barrels, while light stocks gained almost 1,000,000 barrels, but tops showed a decrease of 854,100 barrels. Refineries drew upon stocks of tops to run the gasoline that has been moved in increasing amounts from California ports.

A check of monthly reports since the first of the year show that during January, the daily average production of crude in California was 674,597 barrels. The daily average in April was slightly more than during March, but with the exception of that month, the decline has been small but steady. The daily average in January was 674,597 barrels against 621,766 barrels in July, showing a decrease in that time of 52,831 barrels.

Unless Rosecrans and Dominguez hit a stride not expected there should be a small decline the rest of the year. But it is entirely possible for the two fields mentioned to get busy and hold up the production of the state during the rest of the year.

The attached table gives field, production, consumption and storage statistics for California for the past 19 months:



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†El Dorado, Ark.
†Smackover, Ark.

*WICHITA FALLS, TEXAS

†Graham, Texas
†Breckenridge, Tex.
†Electra, Texas
†Burkburnett, Texas
†Wilson, Okla.
†Duncan, Okla.

*TULSA OKLAHOMA

†Tonkawa, Okla.
† Henryetta, Okla.
†Yale, Okla.
†Shidler, Okla.
†Haskell, Okla.
†Beggs, Okla.
†Slick, Okla.
†Bristow, Okla.
†Wewoka, Okla.
†Hominy, Okla.
†Okemah, Okla.

REPUBLIC SUPPLY CO

LETTERS OF Paul Peebles P.S.G.

mi deer cleopatry

well cleo hunny I am back on the job agin like I sed I wood be after mi vakashun & am pretty bussy tryin 2 studdy out whether or no I shood go 2 nite skool agin this yere when it starts. I hav bin now for 2 yeres & hav not lerned a hole lot on account of me noin so mutch alreddy. yu see hunny gettin lernin is a hole lot like packin cotton in a basket. when yu git the basket full & then want 2 put in sum moar it takes a hole lot of trompin & it is pretty slow work. well that is the way it is with me & lernin. mi hed is alreddy so full of facks & figgers that when I try 2 put in sum moar well it just nacherally has 2 be packed in. then when I git a ideer 2 goin it has 2 chase all aroun in mi hed in amongst the lernin & keeps bumpin in2 other ideers. so sumtimes I do not no if it is a good ideer 2 hav 2 mutch lernin or not. ennyway it is pretty slow goin for the nite skule teetchers 2 lern me annything on account I no so mutch alreddy.

so I will not deside about goin 2 nite skool until it starts & I see what kind of a teetcher they will hav for me this time. if she is a nise preecty yung lady well mabe I will go because then I can lern better on account she will be interested in me lernin. it is funny hunny that only the best lookin ladys takes any intrest in me & mi afares. I gess that is the reesen yu are so strong for me, eh hunny.

well I gess yu want 2 no about mi vakashun. well I told yu alreddy how it was that I was goin in the widder's car so as 2 be the chuffer for her & all that. well we did not go verry far only 2 austin & santonia. it aint no oil wells or nothin at austin but it is sum wells and refinries at santonia but it did not worry me none on account I hav seen oil wells & refinries befoar & they aint no novlties 2 me. them what wants 2 look at them kind of things on there vakashuns is welcome 2 it but them things looks like work 2 me & when I am on vakashun I do not care nothin about no work.

well I driv the car alrite & we gotten 2 austin about nite the first day out & went 2 a park 2 camp. well it wasn't sutch a mutch of a park only it was close 2 a creek & all the muskeeters in central texas had it down on they map. it had not raned in them parts this summer till we gotten their & then it pored down just when we had gotten fixed up in the cots 2 git sum sleep out under the stars like the feller says. well we did not hav no tent so we had 2 put all the stuff back in the car & git in & wate till the rane was over whitch we did & did not feel none 2 good in the mornin after not havin no sleep & settin in a car & not goin no where all nite. it is grate stuff for them what likes it I gess, but the next time ennybody wants me 2 go on a automobeel campin trip well I gess I will be 2 bussy in mi bizness 2 git the time. it is pretty good fun 2 go fishin & camp out, but it is diffrent with towering & not bein goin fishin.

well the rest of the trip was pretty near the same only a little diffrent when we gotten 2 santonia where it is sum old churtches whitch everybody wants 2 look at & whitch sum old fellers whitch hangs around there collects a dime for tellin yu how old the house is. well ennybody cood look at it & tell it is pretty old & ort 2 be tore down or repared. but they can make moar munny out of them old, I gess.

well that is all about the trip escept that I tooken mi money out of mi pocketbook & then lost the pocket book whitch was a pretty good excuse I had for not havin no munny 2 pay for gas & other incidentals so that the widder wood hav 2 do it. that shore was a slick skeem, eh cleo? well it worked fine & saved me sum munny whitch I will need when we go 2 the tulsey show.

I seen slim sundy hunny & I want 2 warn yu rite now 2 not pay no atenshun 2 the lies whitch he will proberly be tellin yu about me bein down 2 galveston. yu see hunny it was just like this. I was plannin all the time that I wood take the widder's car & slip off down 2 goose creek 2 sea yu sunday for a susprise 2 yu, on account I thort the widder wood be so wore out from ridin that she wood not want 2 go nowheres. but here she shows up with a yung lady visitin her whitch aint never bin 2 galveston so 2 make a long story short I had 2 run the car down their for them. I wooda hole lot rether cum 2 see yu hunny but I cood not manage 2 git out of this without bein reel imperlite & I no yu do not want me 2 to that.

when slim seen me I was teetchin this hear girl 2 swim & the widder was up on the beech sumwheres & I gess he did not no that she was along & that I was out with another 1. anyway that is what he is liabul 2 tell yu about it. she is a good looker & has had a hole lot of experents bein lerned 2 swim & was holding on 2 me like I was the rock of gibraltar all the time & hollerin evry time a wave cum, so I can imagin what slim will tell yu about it. but don't yu pay him no never mine hunny. he is just a big lire & is jeeleaus of me both on account yu is mi sweety & on account of the other wimmin whitch I am forsed 2 go with from time 2 time when he always sees me. that is the kinder of a skunk he is. he is allus at the rong plase at the rong time. he ort 2 be arested for goin in the watter at Galveston but I gess he has 2 hav a bath at least wonst a year.

well hunny I am shorely goin 2 git 2 cum 2 sea yu over the next week end. week end is a new term whitch I hav lerned hunny & I gess yu do not no what it meens. it is from satterday 2 mundy & the way I found out was that this hear girl I was tellin yu about only cum over for the week end. I am not goin 2 rite 2 her hunny so yu need 2 not be worried.

well hunny I hav got to lie low this week & work inside the house on account it was about a 1000 shool teetchers in town & yu no what that meens. I wood spend the hole week end in goose creek escept I hav got sum work 2 do hear whitch has 2 be did. but I am goin 2 cum 2 sea yu next satterday or sunday shore.

yore lovin Paul.

Pyrites of Iron Jewelry

"Oil Well Diamonds"

Pyrites of iron, taken from coastal oil wells, cut into beautiful sets full of fire and brilliancy and artistically mounted into rings, scarf pins, etc. Supplied to those idenified with the oil industry at the following prices:

Gents Pyrites Ring, Solid Gold Mounting	$12.00
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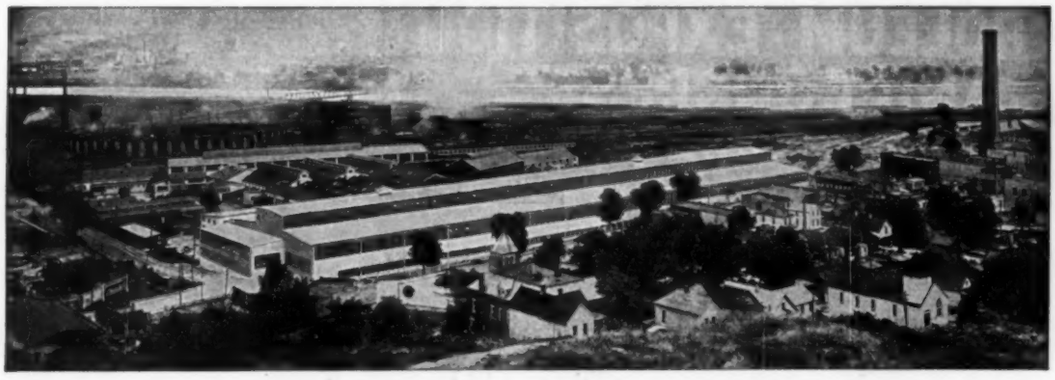

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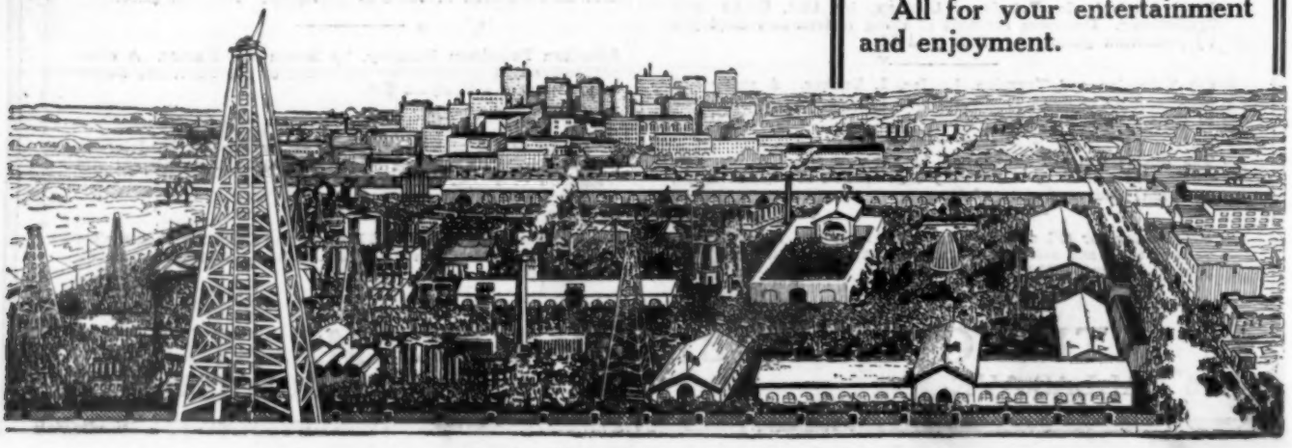
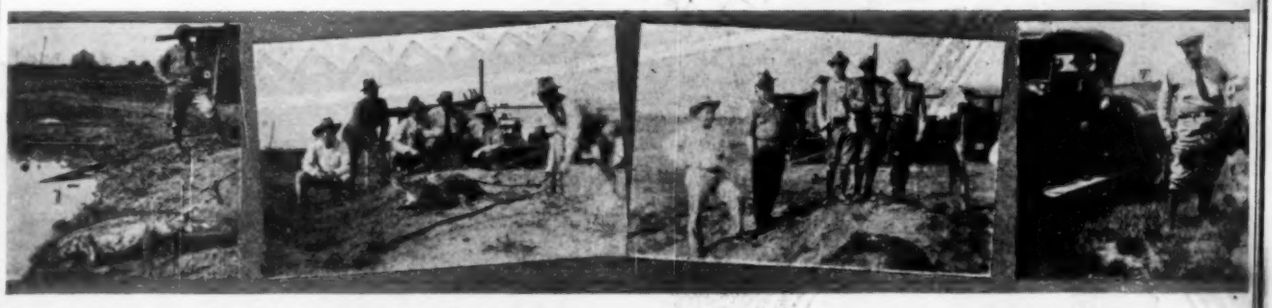


SQUEAKS from the BULL WHEEL

MOVIE OF A GREAT HUNTER IN MEXICO



Personal glimpses into the wilds of Mexico with "Doc" Oldham, purchasing agent for the Gulf companies with headquarters in Houston. And at that domesticated turkeys and tame alligators are not such bad hunting, says "Doc". Read below and laugh with us.

"Doc" Oldham—"Huntsman"

"When I was in Houston some three weeks ago, in Mr. Kincade's office, Mr. Kincade called you and told you that I would send you some films illustrating 'Doc' Oldham's recent trip to Mexico," writes a subscriber from Mexico. "I have had considerable difficulty in locating these films.

"I enclose herewith five pictures," writes W. Winship from Tampico. "One of them shows the genial 'Doc' Oldham holding in his hand a 'wild' turkey much bullet-ridden. The other pictures show the same gentleman playing with an alligator, which is a house pet at one of the Gulf's wildcat camps, Altamira 15, about seventy-five kilometers north of Tampico.

"I know it would be a very severe blow to Mr. Oldham's reputation as a huntsman to make a story out of his turkey hunt, however, all the boys in Tampico and in Houston think that the real facts are too good to keep out of print. The facts of 'Doc' Oldham's turkey hunt are as follows:

"We are drilling a number of wildcat wells in the Hacienda of Altamira, about seventy-five kilometers north of Tampico. Wild turkey hunting is really very good in the neighborhood of our wells. A good hunter has no difficulty at all in getting four or five a day. Mr. Oldham tried his hand at tarpon fishing without much success. We were constantly planning to take him on a wild turkey hunt and his enthusiasm grew daily until it reached the point where I do not believe we could have sent him back to Houston without allowing him to kill a turkey, even if we had to hold it for him. We finally arranged the trip and Mr. Oldham drove to Altamira over the road with Bill Reed, our production superintendent. Eddie Morend, our pipe line superintendent and C. A. Armacost, commissary superintendent, were also in the party. Most of our hauling to this camp is done by boat. On the same day, by boat, we sent a special messenger to Altamira as custodian of a domesticated turkey, especially procured for 'Doc' Oldham's visit.

"The party did not reach Altamira until dark that night. The turkey hunt was arranged for the next morning. Along about daylight the tame turkey was taken out behind a batch of monte about two kilometers from camp and was put to work on a large breakfast of corn and bread. Eddie Morend helped to park the turkey, and upon his return to camp woke 'Doc' for the turkey hunt. 'Doc' got in a car with Morend and circled around the monte for a short period until the tame turkey was sighted, peacefully at work on his breakfast. 'Doc' jumped out of the car, very adroitly maneuvered himself into a position of vantage about fifty yards from the turkey. I will say that his aim is good, because the turkey was put out of the fight after the third round, although the poor bird was apparently much bewildered at such treatment by human beings who had heretofore always been his friends. During the shooting the turkey stood around unconcernedly until brought down by 'Doc's' third shot.

"I don't know whether you want to use this story in any way or not, but I promised Mr. Kincade I would send it to you although its publication would be an awful blow to 'Doc's' pride. An experienced hunter could easily tell from the photograph that the bird was a tame turkey and not a wild one. A wild turkey here would be very much larger.

"Whether you use this story or not, will you please keep my name out of it, for I expect to visit Houston again and do not want to have to put on a steel jacket to walk into 'Doc' Oldham's office."

Has It Happened to You?

There was a large crowd gathered around the overturned motor car, while the excited driver was trying to right things.

"Halloa!" suddenly called the voice of a new arrival. "What the matter, Robbins—car turned turtle?"

Robbins smiled with expressive sweetness.

"Oh, no; not at all, old chap," he replied. "These kids have wanted to see how the machinery worked, so I had the car turned upside down just to please them."—Los Angeles Times.

Tragedy Recipe

Take one reckless, natural born fool.

Two or three big drinks of bad liquor.

A fast, high-powered motor car.

Soak the fool well in the liquor, place in the car and let him go. After due time, remove from wreckage, place in black, satin-lined box, and garnish with flowers. — Walton (Ga.) News.

Ingenuity

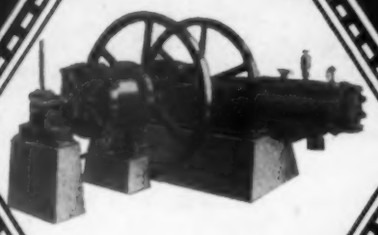
Prospective Mistress — You say you have no references. How is that?

Applicant — Well, you see, mum, I've always stayed in one place till the people died!"—Passing Show (London.)

Jack—I've a little secret for you, dear.

Jean—Just a second and I'll get a couple of glasses.—Brown Jug.

FRANKLIN VALVELESS GAS ENGINES



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Tank Bolts—
Continental Supply Company
Steel Mfg. & Warehouse Co.

Tanks—
American Tank Co.
Butler Mfg. Co.
Black, Sivalls & Bryson
Columbian Steel Tank Co.
Continental Supply Company
The Brownwell Co.
Gantz Tank Co.
Graver Corporation
Kansas City Structural Steel Co.
Maloney Tank Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works
Pittsburgh-Des Moines Steel Co.
United Iron Works
Wyatt Metal & Boiler Works

Tank Deadwood—
Robertson-McDonald Lumber Co.

Tank Equipment—
Continental Supply Company
Oil Conservation Engineering Co.

Temper Screws—
Burns Tool Co.

Thermometers—
Continental Supply Company
Fort Worth Laboratories
The Foxboro Co., Inc.

Timbers—
Robertson-McDonald Lumber Co.

Tongs—
Bridgeport Machine Co.
Continental Supply Company
Dunn Mfg. Co.
Guiberson Corp.
LeBus Rotary Tool Works
Pelican Well Tool & Supply Co.
Wilson & Willard Mfg. Co.
W-K-M Co.

Tool Joints—
American Well & Pros. Co.
Baash-Ross Tool Company
Boykin Machinery & Sup. Co.
Bridgeport Machine Co.
Continental Supply Company
Hughes Tool Co.
Pelican Well Tool & Sup. Co.
Regan Forge & Engineering Co.
Republic Supply Co.
W-K-M Co.

Tools (Fishing and Drilling)—
Bridgeport Machine Co.
Brown Welding & Machine Co.
Continental Supply Company
Frick-Reid Supply Co.
Hughes Tool Co.
International Supply Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
Sullivan Machinery Co.
Western Supply Company
W-K-M Co.

Toothless Slips—
LeBus Rotary Tool Works

Tractor Winch—
Rock Island Plow Co.

Traveling Blocks—
American Well & Pros. Co.
Baash-Ross Tool Company
Boykin Machinery & Sup. Co.
Continental Supply Company
Gulf Coast Machine & Sup. Co.
Lufkin Foundry & Machine Co.
Regan Forge & Engineering Co.

Tret-O-Lite—
W. S. Barnickel & Co.

Tubing Catcher—
Continental Supply Company
Dunn Mfg. Co.
Guiberson Corp.

Tubing Lines—
Continental Supply Company
D. F. Connolly Agency

Tubing—
Continental Supply Company
Republic Supply Company
Reading Iron Co.
Standard Seamless Tube Co.
Superior Tube Co.

Underreamers—
American Well & Pros. Co.
Bridgeport Machine Co.
Continental Supply Company
Western Supply Company
Wilson & Willard Mfg. Co.

Vacuum Pumps—
Continental Supply Company
Sullivan Machinery Co.

Valves—
Bradford Motor Works
Continental Supply Company
Darling Valve & Mfg. Co.
The Charles N. Hough Mfg. Co.
Texas Oil Pump Co.
Ludlow Valve Mfg. Co.
Oil Conservation Engineering Co.
Pratt & Cady
Reading Steel Casting Co.
Reading Valve & Fittings Co.
Smith Separator Company
Southern Brass Mfg. & Plating Co.
Westcott Valve Mfg. Co.
W-K-M Co.

Valves and Fittings—
Continental Supply Company
Darling Valve & Mfg. Co
D. & B. Pump & Sup. Co.
F. W. Heitmann Co.
Ludlow Valve Mfg. Co.
Lufkin Foundry & Machine Co.
The National Supply Cos.
Peden Iron & Steel Co.
Pittsburgh Reinforced Brazing and Machine Company.
Pratt & Cady
Republic Supply Company
Reading Steel Casting Co.
Reading Valve & Fittings Co.
United Iron Works
W-K-M Co.

Walking Beams—
Continental Supply Company
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.

Welding and Cutting Equipment—
Continental Supply Company

Working Barrels—
Axelson Machine Co.
Bradford Motor Works
Continental Supply Company
D. & B. Pump & Sup. Co.
Republic Supply Company
The Charles N. Hough Mfg. Co.
Southern Brass Mfg. & Plating Co.
Texas Oil Pump Co.

Water Gauges—
Continental Supply Company
J. E. Shaffer Co.
F. W. Heitmann Co.

Water Cans—
Continental Supply Company
H. P. Gott Mfg. Co.

Wire Line Clamps—
Western Supply Company

Wire Rope—
American Cable Co.
Bridgeport Machine Co.
D. F. Connolly Agency
Continental Supply Company
Houston Oil Field Material Co.
International Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
The National Supply Cos.
Williamsport Wire Rope Co.

PERFECTION VAPOR PRESSURE TANKS
WOOD, AND BOLTED STEEL TANKS

A PERFECTION Vapor Pressure Flow Tank set up for "action."

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The Ralco Oil Company believes its Perfection tanks will pay for themselves every month! That's a pretty fair investment, we think you will admit.

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Since Black, Sivalls and Bryson began business, hundreds of customers have purchased our tanks. And numbered among them are the names of concerns which stand for everything that's powerful in the petroleum industry.

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All our customers—both little and big—have found that our Perfection tanks have all those qualities that they have a right to expect in lease tanks.

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Black Sivalls & Bryson
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